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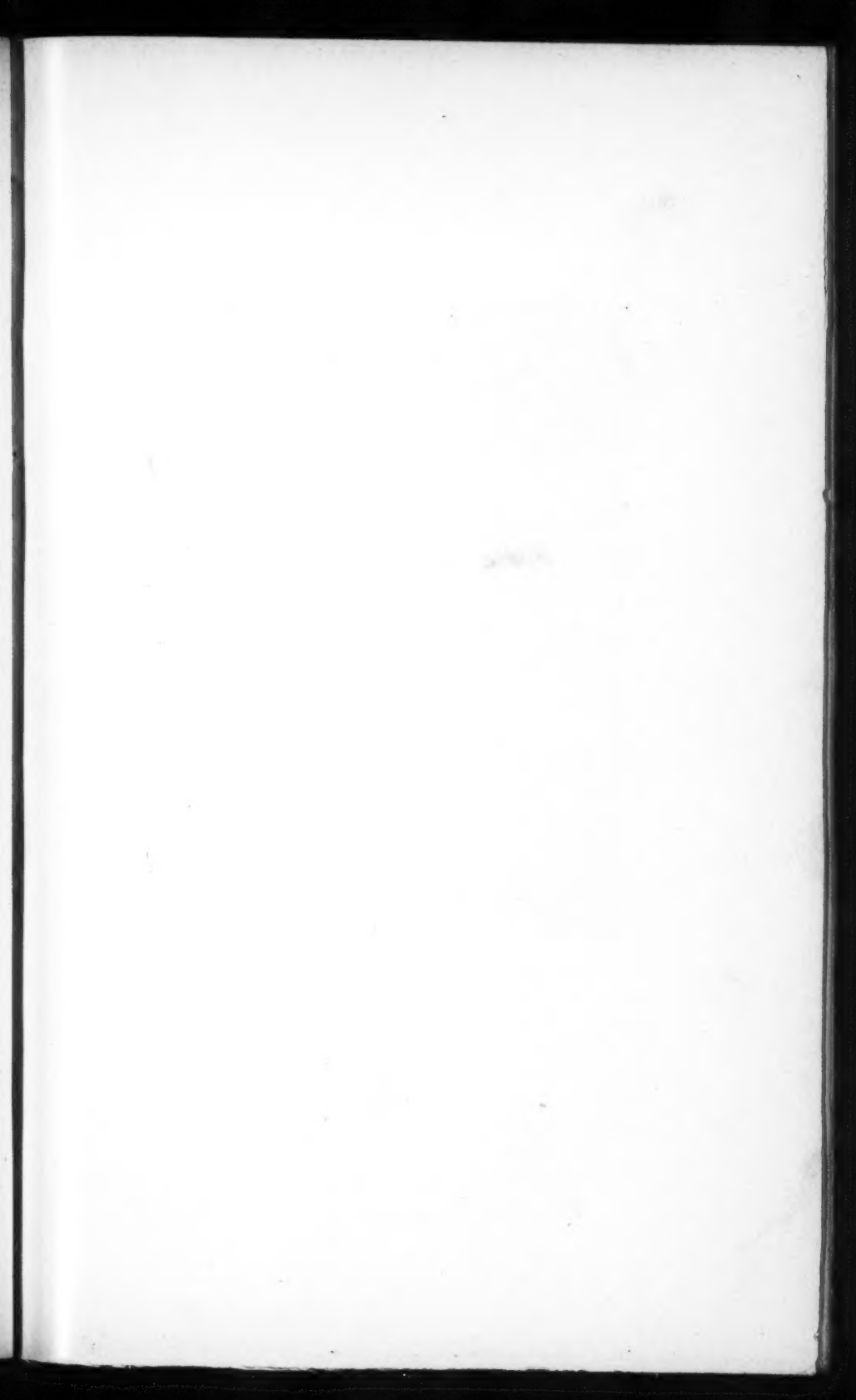
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# COLUMBIA UNIVERSITY QUARTERLY

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## GRADUATE WORK IN THE UNITED STATES

THE development of university, as distinguished from college, education in the United States is essentially the achievement of the last forty years. The distinguishing mark of this education is, to use the singularly apt definition of a recent writer, that it trains to "disinterested scientific thinking, as distinguished from technical or commercial science." This training can be given with full profit only to those who have been made ready for it by previous education—by preparation which may be roughly estimated as at least equal to that which culminates in graduation from a reputable college. Professional and technical education, as imparted in schools of theology, law, medicine and applied science, deserves to be ranked as university education only when it fulfils these two conditions: that is, only when it sets its standard of work so high as to exclude without mercy those who have not had this preliminary drill, and carries on its instruction with the aim of training in habits and methods of research no less than for the mere practice of a profession as a means of livelihood. Very few professional schools have as yet reached this point. The Medical School at Johns Hopkins and the Law School at Harvard have attained it, the former having set this standard

from the first; one or two of the divinity schools, as at Harvard and Chicago, come near it; the Medical School at Harvard after 1901, and the Law School at Columbia after 1903, will admit only holders of the first degree to candidacy for degrees.

Until the middle of the present century, the American college, founded on English models and developed chiefly along similar lines, satisfied the higher educational needs of the American people, except as to the learned professions, for which special schools were established, oftener independent of collegiate institutions than connected with them. The theological schools containing among their students the largest proportion of college graduates long remained in closest touch with the colleges; while the schools of medicine and law and the later established technical schools for the most part went their own way, even when joined by bonds of greater or less closeness, with the older "colleges" or "universities." It was, indeed, felt, even before the beginning of the nineteenth century, that the attainment of the baccalaureate degree did not necessarily exhaust the possibilities of education for the young man who had no wish to turn clergyman or physician or lawyer; but the attempts to do something for young bachelors of arts who still had unsatisfied aspirations were sporadic and aimless. The master's degree, given as in England to those who kept their names on the books and paid a small fee, meant nothing.

The first impulse toward development in this direction was given by no less a personage than George Bancroft, though unfortunately it was without immediate result. Bancroft, graduated at Harvard in 1817, went to Germany to continue his studies, being one of the first Americans who did this. At Göttingen he found what was as yet unknown in America—a fully organized system of training in methods of scientific research, unconnected with special training for the learned professions of the church, the law or medicine. He completed his studies under the faculty

of philosophy, and was made a doctor of philosophy in 1820. Desirous of introducing into his own country the methods which he had learned to admire in Germany, he offered his services to Harvard for this purpose, but the offer was refused. As regards the attainment of a degree, Bancroft had been preceded by Edward Everett (Ph.D., 1817) and Joseph Green Cogswell (Ph.D., 1819). Few, if any, other Americans are known to have obtained degrees in Germany until 1848; but after that date the number becomes noticeable, including many of the most eminent scholars whom this country has produced.

On their return home, these young and enthusiastic men naturally endeavored to develop in their own institutions some of the methods of instruction in which they had been trained abroad. Such attempts were made at Harvard, at Yale and at the University of Michigan, soon after the middle of the century. The first well-organized graduate instruction was given at Yale, where the announcement was made in the catalogue for 1860-61 that the degree of doctor of philosophy would be awarded for due completion of courses of study open only to bachelors of arts, science or philosophy, and to persons who should pass an examination equivalent to that for the baccalaureate degree. The lead of Yale was followed more or less rapidly by several institutions. Harvard first granted the Ph.D. in 1873. The opening of the Johns Hopkins University in 1876, on an avowedly German plan, gave a mighty impulse, which was strengthened by the influence of a very large number of Americans who visited Germany after 1870—a number running up into the hundreds annually. The doctorate in philosophy was from the beginning made a "research-degree," and such it has continued to be, except for the unfortunate instances, only too many in earlier years, wherein certain institutions of the baser sort seized upon this new title as a new means of self-advertisement, and showered it generously, as an honorary degree, upon persons who had no just claim to receive it.

The Ph.D. degree being thus peculiarly the token of the non-professional scientific university education, the statistics of its award during the thirty-eight years elapsed since 1861 form a most interesting index of the growth of the latter. From the one such degree given in 1861, the number has swelled to 304, awarded after due presentation of satisfactory dissertations and severe examinations, in 1898. The half-dozen real "graduate students" in non-professional schools of 1861 have become over 5,000 (exact figures are practically impossible to obtain) in 1899.

A considerable majority of these graduate students, as of those who have received the doctor's degree in philosophy (or in science, some institutions giving this degree for work exclusively in natural science) are students of natural science.\* The explanation suggested in *Science*—that "our educational system is largely based on the study of language, and in view of the great number of teachers required it appears that they are satisfied with a less adequate education than is the case in the [natural] sciences"—covers the ground only in part. Additional reasons for the greater number of graduate students of the natural sciences are: (1) The natural sciences are not apt to be studied seriously until a later period in the college course than the humanities, so that their continuation as graduate studies is naturally more frequent; and (2) the opportunities for such original research as can be done with a fair degree of success by comparatively young students are vastly more numerous in natural science than in philology, history or literature.

This great growth and development of graduate work is the most encouraging feature in the history of American education. It means that the number of well-educated teachers is constantly increasing, and that the attempts, so often seen, to cover up deficient attainments and knowledge of one's subject with a showy frosting of pedagogical

\* See statistics in *Science*: Aug. 19, 1898, and Aug. 4, 1899.



method will become gradually rarer. Every university educator should labor unceasingly for the emancipation of this work from the limitations necessarily put upon younger students—for the development in the student of that feeling which leads him to seek in his chosen field the best instruction which he can reach, quite irrespective of the college patriotism which very properly dominates the undergraduate world. It is not yet made easy enough for the graduate student to migrate. There must be attained between the larger institutions a reciprocity which shall encourage migration, so that the graduate of one shall by preference go to one or more of the others for at least a part, if not the whole, of his graduate work. Nothing so broadens the mind of the mature student as the opportunity of comparing different methods of work and the personalities of different masters, just as nothing puts the genuine teacher so much on his mettle as the presence of men who have come from elsewhere to see what he can offer them in inspiration and guidance.

EDWARD DELAVAN PERRY

#### AMERICAN AND FOREIGN UNIVERSITY TRAINING FOR THE HIGHER DEGREES

IT is significant of the progress of the past two decades in the history of the American universities, that the specialized equipment of their faculties, libraries and laboratories has gradually reached the point of challenging serious comparison with that of the great universities of the old world. There is no need to recall the condition of affairs antecedent to the period in question, when the American college graduate or young instructor, who was ambitious to pursue his studies on a higher plane, found no occasion to embarrass either himself or his chosen

advisers with the question whether he would do better to remain at home or to go abroad for the accomplishment of his purpose. His course lay clear before him: the foreign university—almost invariably the German university—became the immediate Mecca of his pilgrimage. Handicapped for the most part by an altogether inadequate knowledge, or even a total ignorance, of the German language, involving fully a year of bitter struggle with difficulties quite extraneous to his main object, the American student of that day—after winning for himself, by his individual pluck, adaptability and earnestness of purpose, the intellectual respect of his foreign comrades and professors, and after studying life's aspects under various skies—returned to America to become a protagonist, wherever his lot might fall, of cosmopolitan ideas and methods of university advancement. So that to-day, in very large measure, the American universities are manned by professors who have been in close contact with the leaders of European thought and scholarship, by professors whose relations, thanks in part to sabbatical years and long vacations, continue to be intimate with their former teachers and associates, and whose life-work is in accord with the best intellectual activity of the time.

Such being the case, the problem of choice between "home" and "abroad," for the American college graduate of university aspirations has to-day become not a little complicated; while even the American university professor may often feel in all honesty at a loss to reconcile what appear to be the conflicting claims of home and of foreign training for a certain proportion of his pupils. It is with the belief that, in the interest of all concerned, the underlying conditions of this problem should be more clearly recognized and more satisfactorily met, and with a view of stimulating consideration of the general subject, that these few words are here presented.

To the broad question, whether the aim of university en-

deavor in this country should be to encourage students, as a matter of principle, to pursue their entire university course at home, the answer may be given frankly in the negative. Whatever may be our educational progress in the future, it will doubtless continue to be to the interest of the American student and the American university that candidates for the higher degrees should seek a portion of their training abroad; just as, with prophetic eye, we can foresee the time when it will become of interest to an increasing number of European students to seek part of their training here.

On the other hand, it may still more confidently be affirmed that, for the great majority of graduate students who have the opportunity to make the choice, better results are at present to be attained by doing a considerable part of their advanced work and taking their degree at a strong American university, than by cutting absolutely aloof from America and seeking both training and degree abroad.

If this, and what precedes it, be admitted, then it becomes of prime importance to formulate a not inflexible but fairly representative scheme whereby the student, with the aid of his leading professors, may plan to coördinate his prospective work at home and abroad into a well-ordered homogeneous whole. Such a scheme is feasible on the basis, speaking in general, of a first year at the American university, a second year abroad and a final year at the same (or, in some cases, another) American university. It will not be supposed that so simple a proposition is advanced as though it were either original or novel in university centers. It will be briefly discussed here merely for the purpose of suggesting, for the benefit of the student who is *ipso facto* inexperienced in the matter, the various advantages of such an arrangement.

First, the importance to the student of doing his first year's graduate work under the guidance of American professors is not easily to be overestimated. Experience shows that the dividing line between the methods of under-

graduate and graduate work is, after all has been said and done, a more or less sharp one; and the spirit in which the student crosses this line is apt to determine, for weal or for woe, the success of his after career. To characterize roughly, the undergraduate who has a piece of work to do "reads up" his subject, in order to present a new and attractive combination of views derived from the "authorities." The graduate student, on the contrary, marshalls what has been done by his predecessors on a given topic, in order to make clear what they have *not* accomplished and what remains for him to do. The difference of mental attitude is fundamental, and few there be that need not patient and judicious aid in the attaining of it. Such aid can be more effectively given and received in the familiar and congenial atmosphere of the home university than amid the embarrassments of a strange environment. By coming early, on a university footing, into personal and stimulating relations with his American professors, the student will best become reconciled to the somewhat bewildering discovery that the "requirements" for the higher degrees are not primarily, or even secondarily, to be meted and measured by number of hours, or of pages, or of marks; he will begin to gain some sense of the difference between a *subject* and a *course*; he will come to the inward recognition of a longing to launch himself, as promptly as may be and as finely equipped as possible, into the teeming, give-and-take intellectual activity of nineteenth-twentieth century scholarship. No longer will he cavil, inwardly or openly, at the hardship of the stubborn fact that infinitely much of the world's best intellectual output of to-day must be divined for into wells of French and German undefiled by the translator's hand. As he opens the eyes of his understanding, perhaps for the first time, to the numberless organs of learned intercommunication, in the form of periodicals, monographs, dissertations, treatises, transactions; as he finds unfolded to his astonished gaze the intricacies of the

mere bibliographical control of the vast accumulations of knowledge in the chosen field of his investigations, he will inevitably rise to a feeling of gratitude that he has found at home an opportunity to orient himself in so elaborate a maze, before alighting as a stranger, literally and figuratively, in the crowded *aula* of some European university.

But what of the advantages of the foreign year, or two years, when the proper time has come? For every reason of culture, of breadth and of development, these advantages are devoutly to be sought. Precisely because the Old World is old, it is full of stores of every manner of material suited to the young scholar's intellectual need. And incidental to his purpose of building firm the foundations for a life-time's scholarship, is the crowning occasion his foreign sojourn affords for the confirmation of his mastery, by way of use and delectation, of the great world languages; while oftentimes his stay abroad may most fortunately be utilized in the collecting of material not otherwise available for his doctor's dissertation.

Of the happy consummation of one's last student year in the quiet preparation of a dissertation, under the constant advice and suggestion of the professor who guided the candidate's first graduate steps, it may seem, in conclusion, quite needless to speak. Just as the production of a worthy doctor's dissertation is altogether the most valuable part of a graduate student's training, so the judicious share that the professor takes in every stage of the dissertation's progress ought to be, and generally is, the most useful and the most vital portion of all the instruction that the faithful professor has to impart.

HENRY ALFRED TODD

## THE FACULTY OF PURE SCIENCE AND SCIENTIFIC SOCIETIES

WITH the present academic year begins the eighth year since the organization of the School of Pure Science. The statistics in the Dean's last report, included in the current report of the President, show that the past academic year was the most prosperous in the school's history, and the enrollment up to the first of November of candidates for higher degrees shows that the present year will more than maintain the steady rate of growth in the past. Without quoting figures, which may be found in the reports referred to, it may be said that the number of graduate students registered primarily in the School of Pure Science has increased three hundred per cent. since its foundation in 1892-3 and that the average yearly rate of increase since 1893-4 is twelve per cent.

Now that the school is established as a well defined component of the university system, it may be of interest to consider briefly the nature of the external conditions which have led naturally to the formation of the Faculty of Pure Science, as well as the external influences which may be expected to affect the progress of its work in the future. Among these conditions and influences, those arising from the general scientific spirit of the age and from the local and national scientific societies seem to be worthy of special attention.

While great credit is due to the admirable labors of those who took the early steps in the organization of this faculty, the reasons for its existence are to be seen as much in the demands of the age as in the demands of the University. To a large extent during the past half century scientific progress has come about, not by reason of, but in spite of academic traditions. During this period, and especially during the past quarter of a century, scientific

thought has, in the main, originated in and been directed by scientific societies. The growth and multiplication of these is, indeed, one of the characteristic phenomena of the times. So great is the influence of these societies that every professor of science is now subject to a double standard—namely, to that of the institution with which he is connected and to the generally higher standard set by the societies to which he belongs. Thus, in founding a faculty whose work should be confined to science alone, or in assembling its scientific staff for the purpose of advanced work, Columbia has simply come into conformity with existing conditions, and happily in this way provides against the danger that her professional standard may fall below that of the scientific public.

There are those, of course, who deplore the present as an age of specialists, and who speak and write regretfully of a past when the more eminent minds were able to compass the entire realm of knowledge. But in compensation for the diminution in the number of such minds—if, indeed, they were ever more numerous than at present—there is the obvious fact that the eminent specialist of to-day is of necessity a much broader man than the eminent specialist of any previous age. Paradoxical as the statement may appear, it is coming to be more and more essential in science that one's studies should be broadly general in order that they may be minutely special. Thus, while from the purely academic point of view it might seem like fostering undue specialization to found a faculty devoted to pure science, such action is not only in close conformity with the scientific tendencies of the age, but is justified also by the same administrative needs which have led to the multiplication of scientific societies.

Of the local scientific organizations whose work sustains closely reciprocal relations with the work of the School of Pure Science, the most noteworthy are the American Museum of Natural History, the New York Botanical



Garden and the New York Zoölogical Society. By reason of the close affiliation with these organizations, exceptional opportunities are afforded by the school to students of the biological sciences. Specially worthy of mention also are the organizations of the Scientific Alliance of New York, embracing the New York Academy of Sciences with its several sections, The Torrey Botanical Club, The Linnæan Society of New York, The New York Mineralogical Club, The New York Microscopical Society, the New York Section of the American Chemical Society and the New York Entomological Society. The opportunities afforded by the latter to instructors and students, for conference, discussion and publication, are of the greatest value.

Contemporaneously with the growth of the School of Pure Science, the University has come to be considered as a specially desirable place for meetings of scientific societies. For ten years the American Mathematical Society, originally founded at Columbia under the name of the New York Mathematical Society, has held meetings regularly at the University. Owing largely to the enterprise and scientific devotion of the members of the department of mathematics of the University, this society has met with unexpected success and has come to occupy an honorable position among similar societies of the world. Its membership now numbers upwards of 330; it has published nine volumes of a *Bulletin* devoted particularly to historical and critical reviews; and it is now about to begin the publication of *Transactions* which will embrace memoirs and similar elaborate works of research. Quite recently, too, the American Physical Society, which held its first meeting here on October 29, 1899, has decided to meet at Columbia once in two months, from October to May of each year, on the same dates as the American Mathematical Society. The stimulus which these national organizations may afford to instructors in and students of the mathematico-physical sciences must be reckoned of

prime importance; while the opportunities they will offer for the publication of meritorious investigations will help to meet one of the most pressing needs of the School.

Of national scientific societies whose places of meeting change from year to year there are many. In December last about a dozen such met at Columbia during the Christmas holidays. This year, November 14-16, the National Academy of Sciences, the most exclusive organization of its kind in the country, held its semi-annual meeting here; and in the last week of June next the American Association for the Advancement of Science, together with many affiliated societies, will meet here. This Association is one of the oldest of our national societies, having celebrated its fiftieth anniversary at Boston in 1898. It is divided into nine sections, devoted respectively to Mathematics and Astronomy, Physics, Chemistry, Mechanics and Engineering, Geology and Geography, Zoölogy, Botany, Social and Economic Science, and Anthropology. The affiliated societies, which will also meet at the University during the same week, are the American Astronomical and Astro-Physical Society, the American Chemical Society, the American Mathematical Society, the American Physical Society, the American Geological Society, the American Entomological Society, the American Forestry Association and the American Society for the Promotion of Engineering Education.

All these organizations help to direct the current and swell the volume of scientific thought. Each is ready to coöperate for the general good which comes from the promotion and diffusion of knowledge among men. To a very important extent, therefore, we must look to them for the crystallization of opinions into ideas which may be truly fruitful; for they, in a greater degree than any single academic body, possess a consensus of expert judgment and a freedom from local restrictions that are the essential prerequisites to clear views and sound progress in the realm of science.

ROBERT SIMPSON WOODWARD

## STATISTICS OF GRADUATE SCHOOLS

MANY of us who are interested in the growth of bodies of graduate students in various American universities have long been desirous of understanding the relative size of our graduate schools and the elements of which they are composed. With this object in view I have prepared the following table, based on the catalogues of 1898-99. I have included all students, who, having obtained a first degree in letters or science, are continuing, in residence, such non-professional studies as lead to the degrees of M. A. and Ph. D., though they may not be candidates for either of these degrees. The graduate schools chosen for comparison are those of Chicago, Columbia, Cornell, Harvard, Johns Hopkins, Michigan, Pennsylvania, Princeton, Wisconsin and Yale. The points I wish to determine are: (1) where are the largest bodies of graduate students; and (2) to what extent does each of these graduate schools draw its students only from a college or scientific school directly connected with it. In other words, I wish to determine, so far as can be done with the information obtainable, what institutions are attracting the largest numbers of graduate students and from what sources they draw them. In preparing this table I have, in most instances, gone behind the summaries of students in the catalogues, basing my figures on the printed lists of graduate students. Each institution has its own method of registration, and it is only by the means mentioned that the results can be compared. I have verified my results with care, and trust that I have succeeded in avoiding any but trivial errors; but I shall be glad to receive corrections and additions of any sort.

The first table requires detailed explanation:

First, I have omitted from an institution's list of graduate students such as are pursuing only post-graduate professional courses—in medicine or engineering, for example. I have also taken no account of non-resident students.

Second, I have presented the figures of the University of Chicago in two forms. The extraordinary activity of that institution in adapting itself to the actual needs of students in the United States is especially remarkable in its graduate school, which, by means of the quarter system, reaches each year a body of graduate students larger than those of Harvard, Yale, Johns Hopkins and Cornell combined. Without detracting from the merit of this achievement, it is only fair to remark that, of the 951 graduate students at Chicago in 1898-99, 600 were in residence during the summer quarter and 340 for only a part of that quarter. It seems to me just, therefore, to present the Chicago figures for purposes of comparison, also, in another form—namely, by taking account only of students who were in residence for three of the four quarters. The total is given opposite the caption “Chicago (*a*).” The figures for three quarters are given opposite the caption “Chicago (*b*).”

Third, I have found it necessary, on account of peculiarities in the methods of registration here, to present the Columbia figures in three forms, marked (*a*), (*b*) and (*c*). The first gives the total number of students receiving graduate instruction; the second excludes 53 students, without degrees, who were thought sufficiently mature to undertake certain special graduate work; the third excludes those students primarily enrolled in professional schools in law, medicine or science who are pursuing, in addition, graduate courses leading to higher degrees, but includes such graduate students in Teachers College as are candidates for the degree of M. A.

Fourth, I have devoted the fourth, fifth and sixth columns to an analysis of the sources from which each university draws its *male* graduate students. The fourth column shows the percentage of graduate students at any university who received their first degrees at the same institution; the fifth, those who received them at other institutions on this

list; the sixth, those who received them at various other places. That a graduate school should have a comparatively large percentage in the fourth column shows that it depends for its supply largely on its own resources. That a graduate school should have a comparatively large percentage in the fifth column shows that it is sufficiently strong to draw students from other large institutions which have distinguished graduate schools of their own.

NON-PROFESSIONAL GRADUATE SCHOOLS  
REGISTRATION IN 1898-99

UNIVERSITIES	Men	Women	Total	Per cent. of men from its own college	Per cent. from other institutions in this list	Per cent. from other institutions
Chicago (a)			951			
" (b)	186	80	268	19	3	78
Columbia (a)	389	94	483			
" (b)	336	94	430			
" (c)	215	66	281	16	19	65
Cornell	88	34	122	31	5	64
Harvard	308	50	358	37	6	57
Johns Hopkins	210	0	210	23	8	69
Michigan	56	17	73	70	1	29
Pennsylvania	107	24	131	31	12	57
Princeton	128	0	128	55	4	41
Wisconsin	67	28	95	60	4	36
Yale	213	40	253	61	5	34

What these figures seem to me to show is this:

First, the graduate work now being done at the University of Chicago is enormous in its extent and far-reaching in its influences. At the same time, it is clear that that work, if reduced to the traditional system of other institutions, would make the school inferior, in point of numbers, to Harvard and Columbia.

Second, if we estimate the Columbia school on the plans marked (a) and (b), it is larger than any other school, except that of Chicago when the Chicago school is estimated on the most favorable basis. Estimated on the strictest possible basis and setting Chicago aside, it is inferior in numbers only to Harvard. To the writer it seems, on the

whole, that the estimate marked (*b*) is both the fairest and that most in accordance with the practice of other American universities. If this be admitted, the Columbia school is larger than any other except that of Chicago—and this limitation holds only when the Chicago school is estimated as in (*a*).

Third, Columbia draws a larger percentage of men from the other universities on the list than does any other university.

Fourth, it seems to the writer that the situation points to the conclusion that the strongest rivals of our graduate school are Harvard in the East and Chicago in the West, and that Columbia should consider seriously the advantages of the quarter system.

G. R. CARPENTER

WILLIAM SAMUEL JOHNSON, LL.D.,

PRESIDENT OF COLUMBIA COLLEGE (1787-1800)

The last days of King's College had been clouded by the violent Toryism of her English president. But her sons had proved well their patriotism in the war for independence, and the name of Alexander Hamilton alone was an ample offset to that of Myles Cooper. In the reorganization her guardians took every means to strengthen her reputation as an American institution, notably in the selection of a name expressive of the national character which they aimed to give the College.

The immediate problem—one of paramount importance—was to secure a worthy president. After Cooper took his sudden departure in 1775, the Rev. Benjamin Moore, lately returned from England, where he had gone for orders, was appointed president *pro tempore*. He afterwards filled the chair of philosophy and logic, and several years later he was elected president of the reorganized

college. His term as president *pro tempore*, however, terminated when, in 1784, by an act of the Legislature the name King's College was changed to Columbia College, and the government of the College was transferred to the Regents of the University of the State of New York. During the next three years there was no president, the duties of the office being discharged by the professors in turns. At the end of this period, it having been found impracticable to administer the affairs of the College successfully by means of a board, many of whose members resided in distant parts of the state, another act was passed, April 13, 1787, transferring the management to "the trustees of Columbia College in the City of New York" as the new corporation was designated. The new trustees forthwith decided that the College must have a president. It was not regarded as essential that he should be a clergyman—a degree of liberality almost heretical at that time. In searching for the best man, regardless of his profession, the choice was not difficult. Who could be more worthy than the son of the first president of King's College? He had been his father's adviser in the conduct of the young college; he was one of the foremost members in the reconstruction of the United States Constitution; his legal reputation was unsurpassed; he was widely known as a most eloquent legal orator. Certainly his superior in three essential qualities—culture, ability and interest in the welfare of the college—could not be found in America. William Samuel Johnson was, therefore, unanimously elected president of Columbia College.

The new president spent his childhood, previous to the founding of King's College, at Stratford, Connecticut, where his father was rector of the English Church. He and his one brother, William Johnson—who became for a time tutor in King's College—received their early education from their father, who, as he wrote to Benjamin Franklin, was seldom without pupils. At his hand they received



so good a preparation for college that, although they were much younger than their classmates, they had little incentive to work during their college course.

It was the hope of his parents that William Samuel Johnson should enter the ministry, and his early religious character encouraged this hope. But he afterwards decided that he was better fitted for a different profession. He graduated from Yale College in 1744, when he had scarcely reached the age of seventeen. Dean Berkeley, the famous philosopher, had, during his stay in Rhode Island, established a scholarship in Yale College for the encouragement of the study of Greek and Latin, and young Johnson was elected to this scholarship. After leaving college, he spent some time at Stratford, devoting himself to the study of the classics; or, in his own words, he "searched the Latin and Greek stores, and wondered at the mighty minds of old." He also took up Hebrew with his father, who was an enthusiast in the study of that language, and aided his father as catechist and reader to the people in Ripton. In that parish of fifty families, he officiated for two and a half years, under the direction of the Society for the Propagation of the Gospel; but, in a letter of March 27, 1747, to Dr. Bearcroft, an official of that society, he resigned his position in order to study law. In May of the same year he went to Boston, intending to spend a month or two in Cambridge, and to be present at the Commencement of Harvard College to receive the degree of Master of Arts. In a letter to his father during this time he speaks of his decision to study law.

The study of law in Connecticut was, at that time, an extremely difficult matter. We are told that "the legal system of Connecticut was exceedingly crude, and the irregular equity by which the courts were guided was rather perplexed than enlightened by occasional recurrence to a few of the older common law authorities, which were respected without being understood. Dalton's *Sheriff*, and

*Justice of the Peace* and one or two of the older books of precedents formed the whole library of the bar and the bench." Johnson himself says that "in the pleadings and arguments our practitioners are obliged to rely upon their own imagination and draw from their own stock, oftentimes a most miserable resource. . . . A teeming, fruitful imagination will make the best figure." He devised a plan of study and carried it out with such success that "his first appearance at the bar of Connecticut forms an epoch in legal history." He cited the authorities frequently and intelligently, and thus immediately helped to put the bar of the state on a higher plane. He assigned as the foundation of his learning in law the study of Viner's *Abridgement*, which he carried from New York to Stratford on horseback.

In addition to his knowledge of law, he had an unusual gift of eloquence. To quote the New York *Evening Post* of Nov. 16, 1819: "Mr. Johnson, gifted with every external grace of the orator, a voice of the finest and richest tones, a copious and flowing eloquence and a mind stored with elegant literature, appeared at the bar with a fascination of language and manner which those who heard him never conceived it possible to unite with the technical address of an advocate." His own personal qualities, together with his services in introducing the best legal authorities, gained him the title of "Father of the Bar" of his state.

But his services to the Commonwealth did not end here. In 1754 he was commissioned as lieutenant of the first company of Stratford militia. In 1761 he was chosen to represent Stratford in the lower house of the General Assembly. He was reelected in 1765, and a little later he took his seat in the upper house. In the same year he was one of three delegates from Connecticut to the Congress which met in New York to state the grievances of the colonies. Johnson drew up the petition and remonstrances to the King and the two houses of Parliament, and is said to

have been a guiding and controlling spirit throughout. He was afterwards named as a special agent to London from his colony, but he did not go until a year later.

The occasion of his voyage was a suit growing out of a disputed title to a tract of land which Governor Mason had been appointed to obtain for the colony from the Mohegan Indians, but which, it afterward appeared, Mason had secured for himself. The suit seemed likely to involve the charter rights of the colony; and as the case had to be tried in London, Johnson was sent there to conduct it. Four years passed before the case came to trial; but it was finally decided in favor of the colony. Johnson's reputation had preceded him to England, and on June 23, 1766, Oxford University had conferred upon him the degree of Doctor of Laws. Afterward he was elected a Fellow of the Royal Society.

During his stay in England he made many friends. Among them was Dr. Samuel Johnson, with whom his relations were close and lasting. Dr. Johnson, indeed, maintained that they were related, though the degree of relationship was never clearly traced. In a letter dated March 4, 1773, the Englishman pays his friend the following high compliment: "Of all those whom the various accidents of life have brought within my notice, there is scarce any one whose acquaintance I have more desired to cultivate than yours." Before the American lawyer left England he was presented with "an elegantly bound copy of Johnson's Dictionary and portrait of its author." The first meeting of the two Johnsons did not begin very auspiciously, if we may believe an anecdote describing it. It is said that, when the American introduced himself and mentioned his native land, the "Great Mogul of Letters" thundered forth, "The Americans! What do they know and what do they read?" "They read, sir, the *Rambler*," was the reply that insured the immediate friendship of the *Rambler's* author. Among other friends of the future President of

Columbia was the son of Bishop Berkeley, his father's friend.

Johnson paid two visits to the continent during his stay abroad. He did not, however, confine his attention to his own interests and to the business of the colony, but kept close watch on the attitude of the British government and of the British public toward American affairs. He even found means to be present, at great personal risk, at debates which Americans were forbidden to attend. In his correspondence with Governor Trumbull of Connecticut and others, he often expressed his fears for the future of the colonies. As early as 1769 he foreshadowed the separation from England, in a letter to Dr. Benjamin Gale. "If we were wise," he says, "and could form some system of free government upon just principles, we might be very happy without any connection with this country." But he was not then ready to advise such a separation, as he feared that faction among the colonies would prevent its success.

In 1771, as the Mohegan case had been decided, Johnson returned to America. The next year he was again elected to the upper house of the General Assembly and was soon after appointed judge of the superior court. He was spoken of for the chief justiceship in New York, and would probably have been appointed, had not the breaking out of the war interfered with the regular course of events. In 1774 he was made a delegate to the Congress in Philadelphia, but his business prevented his being present.

After the battle of Lexington he was sent by the colony, much against his will, as member of a committee to General Gage to discuss means for securing peace; but before the committee returned, the Assembly had declared for independence. Johnson saw the advantages of a separate government for the colonies and was always active in the cause of liberty for America. Nevertheless, he was not at first in favor of war, because he feared that it must end in disaster. He believed, in short, that England's power was

too great to permit hope of successful resistance. But when war was decided upon, he supported it, and was active in the enlistment of men and the furnishing of money.

After the war was over, he was again made a member of the upper house and again he represented the state, this time in a suit with Penn's heirs, growing out of a contested title. In 1784-87 he was a delegate to Congress from the state of Connecticut, and he was also a member—and a very prominent and influential member—of the Constitutional Convention. "His views being wholly liberal and national, he was occasionally the happy instrument of conciliation between the fears and jealousies of the smaller states and the claims and assumptions of the larger ones." It was said of him that "his was a genuine patriotism, not bounded by the limits of any party or sect." The office of peacemaker was of the highest importance at that convention; and the men who—like Johnson—were qualified to fill it performed notable service.

The feature of the Constitution with which Johnson had most to do was the establishment of the Senate. Mr. Beardsley, his biographer, says, "He first proposed the organization of the Senate as a distinct body, in which the State sovereignties should be equally represented and guarded." This alone is sufficient to make his life a subject of interest to every student of American institutions. Johnson was, however, also at the head of the committee "to revise the style and arrange the articles," and their final form undoubtedly owes much to his hand. Furthermore, the bill for organizing the judiciary of the United States, the ultimate guardian of liberty, was drawn up by Johnson and two colleagues. The *Madison Papers* mention several other measures in the discussion of which he took an active part.

The first legislature of Connecticut elected Johnson to the Senate of the United States, but the subsequent re-

moval of Congress to Philadelphia obliged him to resign before the expiration of his term of office; for he had already been elected president of Columbia College and the duties of that office did not permit his absence. After the sudden departure of the last president of King's College, the Continental authorities had converted the college buildings into a military hospital, and the books and "philosophical apparatus" were removed. A president *pro tempore* was appointed, as already noted; but, though some instruction continued to be given, the work of the college was practically abandoned for a time. With the coming of peace and the reorganization of the government, interest in educational affairs revived. The Regents of the State University gave their attention to the matter, and under their administration the work of the college was resumed and carried on for three years, when they were succeeded by the trustees named in the Act of 1787. At a meeting in the City Hall, on May 21, 1787, the trustees of the reorganized college unanimously elected Dr. Johnson as its first president, at a salary of £400. In the autumn of the same year his acceptance reached the trustees.

At that time the students of Columbia College numbered thirty-nine. Several of these lived in the college; but, contrary to the earlier custom, many were allowed to live outside. The gowns and "academic habits" had disappeared, as had most of the books and apparatus.

The professional schools had suffered as severely as the academic during the war. President Johnson numbered among his colleagues three professors of medicine, but it was several years before the school was entirely reestablished. There were rumors of a new medical school outside the college, but the Regents agreed, after meeting the committee of the Columbia trustees, not to erect a separate institution. In February, 1792, the Medical School of Columbia College was established, under a dean and eight professors. In 1793 a law professorship was founded and



James Kent, afterwards chancellor, was chosen professor, though the law school was not fully reorganized until several years later.

The curriculum of the College was improved from time to time, and, without neglecting the languages, much additional attention was given to the sciences. Mention is made of instruction in geology, meteorology, hydrology, mineralogy, botany and zoölogy, as well as in the oriental languages, French, ancient and modern history, and economics. The Trustees gave a great deal of attention to methods of instruction; and at a meeting in July, 1792, they decreed that every professor should publish a syllabus of his lectures.

The number of students continued to increase, and in 1793 twenty-six received the degree of bachelor of arts. Commencement seems to have been almost a national event. The order of procession adopted in 1794 was the following: The governor of the state, the chief justice of the United States, the chancellor of the state, judges of the supreme court, foreigners of distinction, regents of the University, the city corporation, the clergy, the trustees of the College, the president and the professors of the faculty of arts, the dean and professors of the faculty of medicine, the masters of arts, the bachelors of arts, the candidates, students of the College, etc. In 1787 both houses of the state Legislature, upon the motion of Alexander Hamilton, adjourned in order to attend the first commencement of the College under its name. In 1789, the commencement was honored by the presence of President Washington and all the principal officers of the government of the United States.

The progress which was being made under the administration of President Johnson is clearly shown by a report published in 1794. The *Senatus Academicus* had appointed a committee to look into the condition of the College. They secured written statements from the several professors in regard to the work in their courses, and on the basis of



these they published a report, which was presented by Professor Samuel Lalleans Mitchill in behalf of the committee. This report was printed under the title "The Present State of Learning in Columbia College."

The whole college had made great advances in numbers, standing and equipment. President Johnson remained at its head six years longer, until 1800; but in that year his advancing age (he was seventy-two) and failing health led him to resign the presidency of the college and to retire from his position as vestryman of Trinity Church. The progress which Columbia had made during his term of office proved the wisdom of the trustees in appointing him. After his resignation he returned to his early home in Stratford, where his health improved greatly, so that he lived to the age of ninety-two.

A visitor from South Carolina, who saw him two years before his death, gives a glowing description of their meeting. "In the summer of 1817," he writes, "I visited Stratford, and never shall I forget the delightful hours I passed in the company of your venerable and excellent relative. He carried me back to his residence in England and to the company of Johnson, of Mansfield and of Chatham. The theme made him eloquent; and I shall ever consider it a happiness to have heard that eloquence which produced such an impression upon the royal council of England [in the cause of his colony]. Age, though it had impaired his person and a little dimmed his eyes, had still left him a voice of the finest tones, which I can never forget." Another describes him as having in his prime "all the talents of Chesterfield without his vices." Madison said of him, "I have always felt a large share of the respect acknowledged by all to be due to his endowments and virtues."

A. LEROY JONES

UNDERGRADUATE PUBLICATIONS  
AT COLUMBIA

## II. 1848-1857

## THE ANNUAL CATALOGUES

FROM 1815 until 1848 there was no student publication at Columbia. In that year began the career of no less a publication than the present *Catalogue* of the University, which—very humble in its beginnings—has had, through the succeeding half century, a most curious and diversified history. In October of 1848 appeared a little octavo pamphlet,  $8\frac{1}{2} \times 5\frac{1}{4}$  inches, the *Catalogue of the Officers and Students of Columbia College*. It was not an official publication, but was brought out by Stephen R. Weeks, janitor and assistant librarian, and sold by him for ten cents a copy. It contained lists of the faculty and trustees, of the officers of the two literary societies and of the students by classes; and it also gave extracts from the college statute on admission, etc. It was a very simple and unpretentious booklet, printed plainly on coarse paper, now yellow with age. It is this that W. A. Sloan, in his *Undergraduate Record* (1881), incorrectly calls the "Annual Register," using the name that in his own day was applied to that official annual publication which grew, as we shall see, out of this early little catalogue.

Yet Mr. Week's pamphlet was not the real commencement of the series. It seems merely to have given the suggestion; for that same year a second *Annual Catalogue*, for the collegiate year of 1848-49, made its appearance. It has the same title, but on the title page is the announcement that it is "Published for the Senior Class." This is a much neater piece of work than its predecessor. It has a brown cover, with the seal of the college, a fancy black-border page, a Latin motto, and twice as many pages

—sixteen. It contains rather more material, and the arrangement is better and less cramped. Trustees, faculty and students are given as before, as are the two societies. In addition, there is a list of the graduates of 1848 and a summary of attendance, from which we learn that at that time there were one hundred and thirty students. It is also announced that there are fourteen thousand volumes in the library.

Next year, 1849-50, the second number was issued. The contents were the same, with the addition of extracts from the college statistics. This time, however, and thereafter for several years—and this is what brings the *Annual Catalogue* into the sphere of this article—it was published *by* and not *for* the Senior Class. The *Catalogue* for 1850-51 had twenty-four pages and gave the graduates back to the class of 1845. The cover, one of the few retained in the Library's set of these publications, had a wood-cut of the old Barclay street building, above, which was the motto, *Haec olim meminisse juvabit*. In 1851-52 the number of pages was raised to thirty. It was then printed on ochre-colored paper, with very fancy red borders and ornaments. It gave a page or two to the Grammar School—now Columbia Grammar School—and a list of the Presidents of Columbia College and King's College. Next year, 1852-53, the courses of study were added. 1853-54 marks the introduction into the *Catalogue* of the fraternities and the lists of membership. The book now resembles the later *Columbiad*. It drops the graduates and raises the number of pages to thirty-two. And so on, each year with slight changes in size and contents, until the last year of its undergraduate existence, 1856-57, when it blossomed forth in a short-lived but brilliant glory.\* The book of that year was very elaborate. It had forty-eight

\*The Committee that published this *Catalogue* was, according to W. S. Sloan in the *Undergraduates Record*, Samuel W. Francis, Eldridge T. Gerry, George G. Haven, Pierre McCarty and James H. Slipper.

pages, every form of eight pages being printed with a border of a different color. The fraternity cuts were executed with great exactness of coloring and considerable beauty. On the brown cover was a little engraving of a man endeavoring to break across his knee the symbolical faggot, while inside was the appropriate motto: *Recti verique fratres in foedere juncti*.

The extravagance of this very elaborate book so shocked the trustees that they forthwith took the publication into their own hands and next year brought it back to its former severe simplicity. They cut out the fraternities and graduates and left only the purely academic matter. Thereafter it developed strictly along these lines and became an official catalogue, increasing in size as the growth of the college, etc., demanded. In 1860 it was already a comparatively large pamphlet, attractively printed in antique types. That year, by a little historical fiction, it was entitled *The One Hundred and Fourth Annual Catalogue*, etc., although, as we have seen, it extended no further back than 1848. Before that date there had, indeed, been "General Catalogues" published at intervals, and carrying the statistical history of the college up to the date of publication. The *Annual Catalogue* of 1860 is not a continuation of this, however, but of the two little pamphlets of the year 1848. In 1878 the functions of the Catalogue were divided up between the *Handbook* and the *Columbia College Annual Register*, one giving information about courses, etc., and the other, lists of the faculty, graduates and students. To the *Handbook* in 1893-4 succeeded the *Columbia College Catalogue*, a bound collection of department circulars; and this in 1896-7 became the present elaborate and admirable *Columbia University Catalogue*.

## III. 1864

## THE COLUMBIAD, THE MINER, THE COLUMBIAN

After 1848, the next important date in the history of undergraduate publications at Columbia is 1864, the year when *The Columbian* appeared. The appearance of this publication, which was the following year renamed *The Columbiad*, and which, since 1890, has been continued from year to year with the earlier name, marks an important stage in Columbia's growth. The Columbia of 1815 was a very different place from the Columbia of to-day. It was a little institution, very local, and so merged in the social life of the city that there was little of that concentration out of which grow collegiate self-consciousness, college spirit and student activities. There was no intercollegiate spirit and there were no intercollegiate contests in athletics and debating. The great athletic wave did not reach Columbia until the seventies, and even football, as a campus recreation, between Senior and Sophomore on one hand and Junior and Freshman on the other, did not appear until 1824. What college life there was, social and literary, centered about the two literary societies of which we have spoken, and out of their rivalry grew whatever slight college feeling there was in these early days.

In 1836, however, began a new development, that not only worked against Columbia's isolation in the college world and thus made for a new and healthful intercollegiate spirit, but that awakened, as well, in Columbia life, a stronger and more intense vitality. This was the introduction of fraternities. In 1836 a chapter of Alpha Delta Phi was established; while Psi Upsilon came in 1842, and Delta Phi in 1842 or '43. These now, with the others that came along later, became new social and storm centres; and as the rivalry among these secret societies was naturally far keener than between the old debating clubs, it was a much more potent factor in arousing the latent un-

dergraduate energy, and in starting Columbia along the road of progress in student affairs.

The first result of this new factor in Columbia life was the founding, in 1864, of the *Columbian*. The rivalry among the fraternities, by this time grown very keen, finally sought public, material expression. The new publication was practically a fraternity balance-sheet, in which the accounts of the rival organizations were set down for all the world to audit. But, in bringing together all these warring social elements, the *Columbian* practically formulated and gave expression to the broader Columbia life, which from that very moment began to open out into all the complexity and variety of the "modern" period.

This annual started, as it has always continued, as a junior class publication. The editors of the first number were Archibald M. Campbell and George G. Kip, of the class of 1865. They state the object of the paper in an editorial which, gradually expanding into a review of the past year and its progress, long remained a fundamental feature of succeeding annuals:

"The custom which has been prevalent for many years in the principal colleges of our land, of publishing a college paper containing a list of the societies and fraternities connected with the college and such other matter as may prove of interest to the student, the class of '65 now proposes to inaugurate in our venerable institution."

This *Columbian* was a very scanty affair. It was a paper of four pages, in size 19 x 12¼ inches. On the first page figured the fraternities, Psi Upsilon, Delta Phi, Phi Kappa Sigma, Delta Phi, T. K., and Axe and Coffin; also a Chess Club and a Billiard Club. On the second were the editorial and the class poem; on the third, the membership lists of the Philolexian and Peithologian Societies; and on the last, the Trustees, Faculty, Alumni Association, Y. M. C. A., Chemical Society, class officers, Baseball Association and the programme of the fifty-eighth anniversary of

the Peithologian. This *résumé* of the contents gives an excellent idea of the simplicity of Columbia life at this period, as compared with the manifold interests of the present day. Athletics, for example, is represented only by baseball—and that in a merely local fashion. Very interesting, too, is the Faculty list. There were just seventeen university officers, including the president, the chaplain, the organist, the fencing-master, the librarian and the janitor, who was also assistant librarian. The *Columbian* reminds us that it is still war time: "Many well-remembered faces, it is true, would still be remembered in our lecture-rooms, were it not that the dread god of war is still about in his fury. The loss of the traitor, Professor McCulloh, has been more than replaced." This professor, who held the chair of physics, was a Southern sympathizer and was expelled by the trustees. He is referred to in this editorial as "Dirty Dick."

The next annual changed its name to the *Columbiad* and its size to 16x12 inches. The material is essentially the same, though a calendar, a list of prize awards, two songs and the new School of Mines Faculty were added. A motto for the publication was also chosen: *Este Perpetua*. For the next year the sheet, edited this time by Edgar Fawcett, was enlarged to 18 $\frac{3}{4}$ x14 inches. Number IV. is lost, but it was like the preceding ones.

In 1868 there was a change and a decided step in advance, arising—it is interesting and significant to note—from the same fraternity rivalry, heightened and embittered, that had given birth to the *Columbiad*. From the very first there had been a disputed claim for precedence in the first page between the two oldest extant fraternities, Psi Upsilon and Delta Phi. The latter claimed that it had been established at Columbia in 1842, prior to the establishment of Psi Upsilon in the same year; whereas Psi Upsilon maintained, and quoted the Delta Phi catalogues for 1847 and 1851 in support of its argument, that



its rival had not been established until 1843. Historically, Delta Phi could show precedence over Psi Upsilon in the *Annual Catalogue*; but, of course, this could be accounted for by the same error of dates. Neither society would yield, a breach came, and the two fraternities published rival annuals. In order to accentuate the difference between the two, the editors of the Psi Upsilon *Columbiad*, who gained for their book the official recognition of their class, chose an entirely new form. The '69 *Columbiad* was a  $9\frac{1}{2} \times 5\frac{3}{4}$  pamphlet of 64 pages, bound in a plain dark brown or plain purple paper cover, with the name and date printed in gold. This now became the accepted model for a good many years; and the publication, thus rudely jogged out of its old rut, ceased to be a mere insignificant leaflet and became a real book. As Delta Phi and some other fraternities which supported its claim remained unconvinced by the events of the preceding year, they refused to appear in this *Columbiad*. But next year they returned to the fold and the peaceful working together of all elements was resumed. Henceforth Delta Phi accepted second place, though it still retained 1842 as the date of establishment.

The succeeding history of the *Columbiad* is interesting in two ways: on the side of its own development as a student publication from its small beginnings to a large and elaborate volume; and also as a reflection of undergraduate life from year to year, and as an indication of its increasing growth in variety, complexity and spirit. When a history of Columbia comes to be written, the row of *Columbiads* in the library will be a most valuable series of documents. This historical interest of the *Columbiad* is so absorbing that one is tempted to abandon the matter in hand and to trace from their starting-points the various inwoven strands of social, athletic and literary interests. It would be interesting, for example, to trace the rise and fall and transformation of such Columbia customs as Class-Day; the "Goodwood Cup," presented by his class to the most popular

Junior; and the "Burial of the Ancient, or Antiquities or Animosities or Legendre"—for a long and varied life-history has our "Sophomore Triumph." It would also be worth while to trace the rise of rowing, from the class and Psi Phi (Delta Kappa Epsilon) boat clubs to the glorious victories at Henley and Saratoga. And isn't it amusing to know that bicycling at Columbia started in 1869 with the Columbia College Velocipede Club? But these things lie off the main path and are important to us now merely as they explain the gradually increasing bulk of the *Columbiad*.

For several years the '69 *Columbiad* was pretty rigidly duplicated, with slight variations in cover, number of pages and minor decorative devices. In 1875 the new printer impressed upon the '76 book and those following a somewhat different appearance, with minor typographical changes and a heavier, stiffer quality of paper. The editors, too, made certain changes that gave the book more general interest. They included, for example, not only Junior material, but the class lists and histories of the other classes. The next *Columbiad* made the first advance in the matter of illustration, by giving a steel frontispiece of President Barnard. The '79 volume in 1878 marks a rather important stage; for in this year the School of Mines, which had from the earliest days been more or less represented in the *Columbiad* withdrew and founded its own book, the *Miner*, which led a separate existence successfully until 1890, when the two united in *The Columbian*.

Up to 1878 the *Columbiad* had been purely a yearly record of events and a statement of the standing of the various college organizations; and, with the one exception mentioned, there had been no attempt at illustrations or decorations beyond what the printer's fonts would supply. The chief ornamental makeshift and means of varying the book from year to year had been the page border. This became regularly a heavy blue cross-corner border, fram-

ing the reading matter. Nor had there been any humorous or comic stuff—poems, burlesque, parodies or even grinds—except once back in 1865, when the *Columbiad* of that year gave a table of “Capillary Statistics.” The *Columbiads* for 1879 and 1880 open up a new era, in which the annual was to become something besides a mere statistical pamphlet and to acquire an interest, literary and artistic, of its own, apart from its reflection of the events of the college world. The '80 book, which contained 89 pages—much the largest number to date—added only illustrations, and those very crude; but the '81 *Columbiad*, of which Harry T. Peck was Editor-in-Chief, and F. Benedict Herzog, Art Editor, was in every way a notable advance over all preceding publications. It contained seventy-six pages, illustrations that, though still crude, are an improvement on others of the preceding year, and a great deal of very bright and clever comic reading matter. In fact, the whole tone of the book is changed from a dry, conventional hand-book to a gay, entertaining volume that could amuse as well as instruct. The very editorial changes character. Here are a few extracts that will indicate the new spirit in the erstwhile stately and dignified fore-word:

“The Good Wood has come and gone and nobody was hurt. Eighty-one did it with its little hatchet. Let us remember this as our crowning glory. Other classes might set up rival candidates and vote for them and fight over them and make trouble about them, but Eighty-one proceeded on a sure and ingenious plan. When the time for election came, every man promptly voted for himself—then made it unanimous.”

The next three *Columbiads* have much the same spirit and character as the '81 book. The reading matter continues the chief feature and is very bright and witty, abounding with personalities:

“We sincerely hope that everybody who is referred to will feel insulted and never speak to us again. If they

continue cordial relations we may get out another and revised edition" ('82, Edited by N. M. Butler).

The '82 *Columbiad* contains an amusing "Pocket Dictionary," which is still fresh for laughter, although in the transcription single definitions may lose their flavor:

"Brooklyn: Generally supposed to be a holy, quiet and virtuous suburb. If we are to take the specimens that come over here from there as representatives, please prefix *un* to all of the above adjectives."

"Kandahar: Up in Harlem somewhere. Afghans ran the British out of it, anyway. Guess we must be a little mixed about K."

"Harlem: The place where the "L" trains run to."

Columbia was at this period at swords points with every other college in the country; and there were, therefore, many digs at Cornell, Yale, Princeton, etc., each year in the *Columbiad*. In the '83 book there is a burlesque called "Home Again," in which the Cornell crew return to Ithaca from abroad, where they have lost their races. They recount their experiences in a broad country dialect, with many a "Wal" and "I swear to gosh":

"For instance, when in London, where we boarded,  
We had the best which our hotel afforded,  
And neatly fooling all them British pills,  
We skipped one night and didn't pay no bills!"

Many of the "grinds" or "slugs" have a special interest for us to-day—as is the case with this one:

"Abraham Valentine William J.  
Studied all night and studied all day;  
He could tell all about the Vandals and Huns,  
And yanked at the end all the scholarship buns."

During these years there is a steady increase in the number of pages and in the quality of the illustrations. In the latter, however, there is very decided room for still greater improvement; and it is along this line that future *Columbiads* advance. The literary element, if you can

call it such, on the other hand, having reached about the highest development possible in its own peculiar form, from the '85 *Columbiad* on, tends to become conventionalized into certain stereotyped departments and more and more meagre in quantity. The '85 book is the first distinctly to show this new double development, pictorial evolution and literary degeneration. It is at this time, too, that the book falls into the hands of the *Spectator* men, having previously, from 1880 on, been influenced mainly by the *Acta* element in college. The *Acta Columbiana* was the literary paper, whereas the *Spectator* had long represented the pictorial side of Columbia journalism. The '86 *Columbiad* is, indeed, published by the Columbia College Spectator Publishing Company. This is the first book to be issued in stiff covers. The binding was plain dark blue cloth, with gilt lettering on the back.

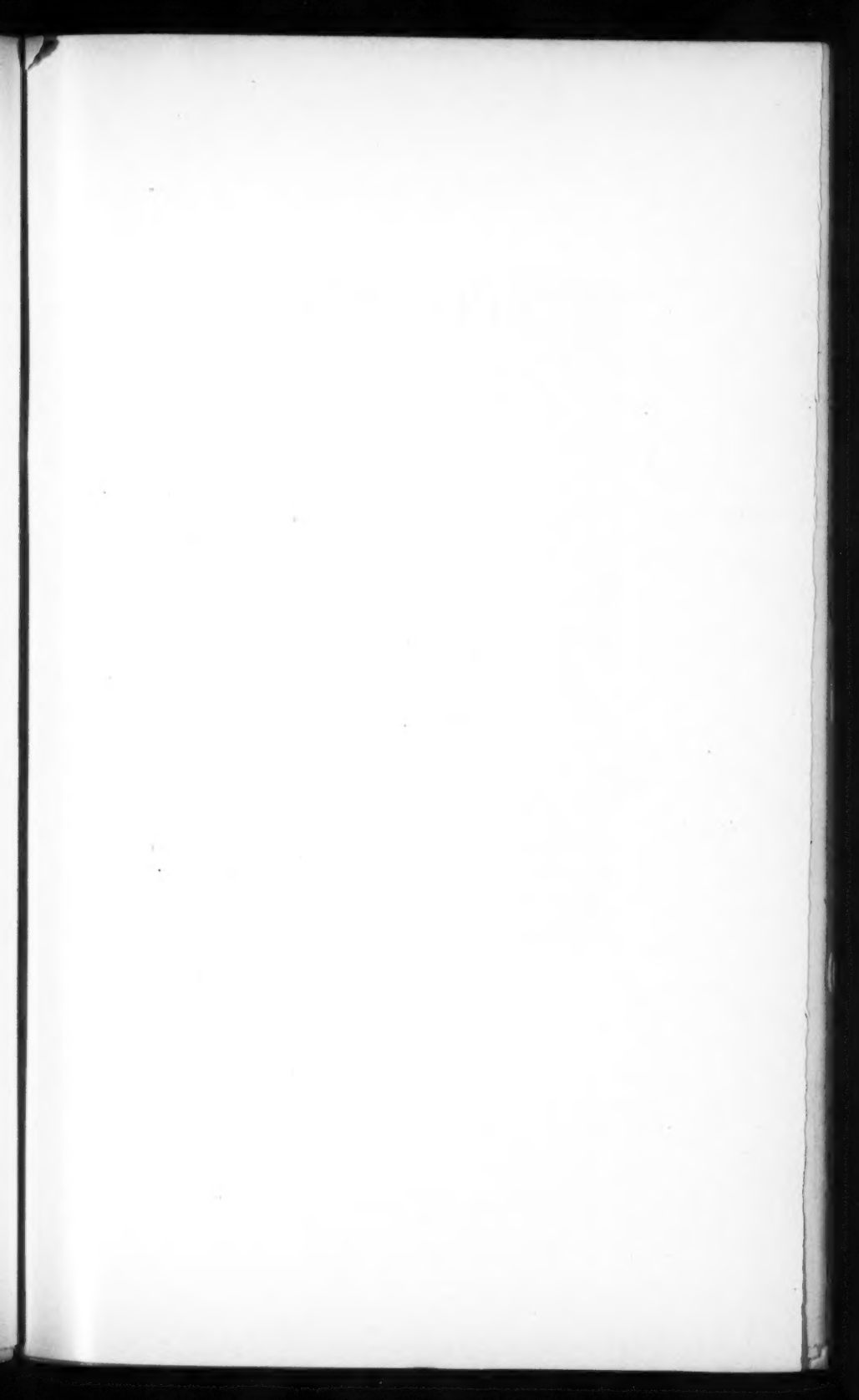
The trend of the *Columbiad* now was towards becoming a handsomely illustrated hand-book of information. The reading matter had degenerated into a few standard features, like the customary set of grinds. But, in return, every number introduced some pleasing changes in style, cover or illustrations. The '88 *Columbiad*—*Ye Columbiad*—increased the size to  $9\frac{1}{4} \times 6\frac{1}{2}$  inches, and had a particularly pretty cover design. The '89 *Columbiad* was printed in bronze. The '90 *Columbiad* is the last of the *Columbiads*. The shape is again slightly changed,  $\frac{3}{8}$  of an inch being added to the width. This is the first book to contain the class-picture.

In 1890 the class of '91 issued the first *Columbian*—or really the second, since the sheet of 1864 was, it will be remembered, so called. This new annual was the result of a combination between the School of Arts and the School of Mines. The latter had since 1878 had its own book, the *Miner*, which closely resembled the *Columbiad* and passed through a similar development—always, however, a little in advance of its School of Arts rival in enter-

prise, if not always in quality. For example, the first issue was illustrated, and this put it at once, on the artistic side, a year in advance of *The Columbiad*. But *The Miner* is so nearly like its contemporary that it is scarcely necessary to do more than say that as a rule it was a rather more attractive looking book, so far as presswork, etc., go. The tendency, as in the *Columbiad*, is towards an illustrated hand-book ideal. Here, of course, the *Miner* has the advantage of the new School of Architecture, and really in 1887, 1888, 1889, it makes a marked advance on the *Columbiad* in beauty of illustration. The last *Miner*, in 1889, adopted the long shape,  $7\frac{7}{8} \times 8\frac{3}{8}$  inches.

The *Columbians* for '90 and '91 had each about one hundred and twenty-eight pages, in size  $9\frac{1}{2} \times 8$  inches. The covers were very attractive, and for the first time in any Columbia annuals there were half-tone reproductions of team-photographs. The '93 *Columbian* finally adopted the long shape first suggested by the last *Miner*—a form which has obtained ever since and has distinct advantages over any other for such a book. From that time to the present there is little to chronicle. With the exception of an occasional attempt at literature, serious or light, the *Columbian* kept pretty steadily to the ideal of an illustrated annual of information, and even then the '99 and 1900 books contained nearly two hundred pages each of pictures and records. Under these circumstances, the artistic side only can legitimately and satisfactorily be cultivated. Here there has been, particularly of late, pronounced success, the last two or three books containing pictorial and decorative work that is quite superior to that of any other collegiate annual in the country. The class history (in verse) and the grinds now arranged with the individual records and photographs, are practically the sole remnants of the great mass of reading matter that marked the *Columbiad* of twenty years ago.

W. A. BRADLEY







CORNELIUS VANDERBILT

Trustee, 1891-1899

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### CORNELIUS VANDERBILT.

MR. VANDERBILT was elected a trustee of the University in 1891; and until serious illness incapacitated him in 1896, he took an active interest in its affairs and was one of its most generous supporters. His death occurred September 12th. At a memorial service held shortly afterwards President Low paid a tribute to Mr. Vanderbilt's services "as a friend of education" in the following address:

*Mr. Chairman and Gentlemen:* The relation of Mr. Vanderbilt to the educational interests of this city may properly be described, I think, as that of a large-minded and generous patron—large-minded, because of the wide range of his personal interests in that cause; and generous, because of his liberal giving of both time and money in the support of every such interest with which he was connected, and I do not doubt of many others.

"He became a director of the American Museum of Natural History in 1878. I think his father before him had been interested in that institution, and that Mr. Vanderbilt continued this interest and maintained it as long as he lived. Naturally he served upon the most important committees. That museum is not simply a museum for the display of rare and interesting objects in natural history: it is an institution whose educational side is very well marked. The public lectures which are maintained there, through the coöperation of the city, and the scientific work which is done there give to that museum a value very high indeed as an educational factor in the city of New York.

"It was in 1878 when that interest began with Mr. Vanderbilt. In the following year, 1879, he became a director of the Metropolitan Museum of Art, a museum standing in

substantially the same relation to the city and to the public, but devoted to an entirely different object—a museum, again, not simply for the display of curious and beautiful objects of sculpture and art, but a museum having direct educational value, maintaining classes for instruction in art and at times in architecture; in all of which work Mr. Vanderbilt took a personal and keen interest. There again he served upon all the more important committees.

“When those especially interested in botany thought the time had come when a botanical garden could be established in New York upon substantially similar lines, they came to Mr. Vanderbilt, who was even then carrying all the cares and all the burdens of which we know. He heard the story of the need and of the advantage to the city, and he accepted without hesitation the position of president of the new enterprise. I think I do not exaggerate at all, when I say that when Mr. Vanderbilt accepted that position the success of the Garden was assured, because his personality and his personal service, which always went with his personality, meant so much to any enterprise. That position also, of President of the Botanical Garden, he held until he was disabled.

“The Zoölogical Garden came to the front after it had ceased to be possible for him to give personal service to such things; but he contributed to its establishment as he did to all of these other things.

“Of course, I came to know him best as a friend of education, in connection with the work of Columbia University. That connection began in this way. Mr. Vanderbilt's father had given a large sum of money to the College of Physicians and Surgeons, at that time on the corner of Fourth Avenue and Twenty-third Street, in order that the college might develop new buildings upon Fifty-ninth Street, where it now is, opposite the Roosevelt Hospital. After his father's death, Mr. Cornelius Vanderbilt and his brothers all coöperated in perfecting the plant

which had been begun by their father's generous gift. It came about that a suggestion was made that this College of Physicians and Surgeons, then a separate and independent corporation, should become a part of Columbia University. It had always had, or at least since 1860, a nominal connection with the University; but the two institutions were corporations separate and distinct. Of course, to make such a merger practicable, two things were necessary: first, the desire of the medical faculty for such a union; and, secondly, the consent and coöperation of Mr. Vanderbilt and his brothers and relatives, who had given the funds to the College of Physicians and Surgeons for its great development. I think the doctors and the benefactors are entitled to share in what seems to me the very great credit of recognizing that the medical school in the long run would be more useful to science, more useful to humanity, as part of a great university than as a school by itself. The benefactors and the doctors were perfectly able to keep it a thing apart. They might have made it exceedingly effective as a separate school; but they both looked upon the matter in a large-minded way. Those who had given the money accepted without a moment's hesitation the advice of the medical faculty, and the transfer was made. At that time Mr. Vanderbilt became a trustee of Columbia University. He was immediately placed upon the most important committees in the University, and became a member of the Committee on Site to locate the new grounds to which the University has now been moved. He served until his breakdown, also, as a member of the Committee on Buildings and Grounds, which passed upon all the plans connected with that development. His interest in the work was constant and unbroken. When the effort was begun to carry out that removal, Mr. Vanderbilt was one of the first to come forward with a generous gift for the purchase of the new grounds. Not very long afterwards, when it became necessary to enlarge the College

of Physicians and Surgeons, which had grown by reason of its union with the University, I pointed out to him how difficult it was for the University itself to make that enlargement when it was engaged in so great an enterprise uptown. Immediately Mr. Vanderbilt took the matter up with as much enthusiasm as I could have shown myself, and enlisted the interest of his brothers; before the winter was over the funds were in hand for the substantial enlargement of the medical school. I remember very well the radiant face of joy with which Mr. Vanderbilt told me that he had secured the coöperation of his brothers, and that the work would go forward. Only last spring, when it became necessary for the University to fund its debt, he helped again in a characteristically generous way. I think I never asked of him anything, in my position as President of the University, which he did not respond to favorably in some form.

"I noticed at Columbia, what has been the subject of remark in all the other institutions with which he was connected, that Mr. Vanderbilt never was absent from any meeting where he was due, without an explanation. When he was absent from town, sometimes a note came from his secretary; but not infrequently it was a telegram—once, I recollect, from as far away as California. On the day his engagement became due, came his explanation.

"In other words, Mr. Vanderbilt showed himself a friend of education, not merely by his gifts, but by his personal service to the cause in the many directions of which I have spoken. I think these incidents reveal certain characteristics of the man that are worthy of our notice and careful appreciation.

"In the first place, I think that his association with all of these institutions evinced a patriotic spirit. I think he was interested in these museums, and I like to think he was interested in the university, not simply and solely because he was a friend of education, and believed in edu-

cation, but because these institutions one and all appealed to him on the side of his public spirit and it was an added pleasure to him to be of service to them because they did so.

"The next trait of Mr. Vanderbilt's character which seems to be illustrated by the story I have told you, was his willingness to help many objects with all his influence. Many men are glad to help the thing that they have started. It becomes to them almost like their own child, and they give to it liberally and freely. I have known only two or three men who gave with the same amount of enthusiasm to some other person's project. Mr. Vanderbilt was one of those two or three. I never could perceive that he gave any the less readily to the thing that somebody else proposed to him, than to the thing which he devised himself. I think that was an unusual and amiable quality.

"Last of all, I want to emphasize his generosity of spirit, and to show you how very generous the man was. I do not know how much he gave away in money. We all know that he had vast wealth out of which to make contributions: many men will say that he gave only out of his superabundance. That may be so as to his money; but Mr. Vanderbilt had no more time than you or I have; he had no more physical strength than any one of us. Because he gave of his time and of his physical strength without stint, as freely as anybody could give, he is entitled to be called in the strictest sense a most generous man; because he gave in this fashion, so freely to the cause of education, I have called him its large-minded and generous patron."

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### NATHAN RUSSELL HARRINGTON

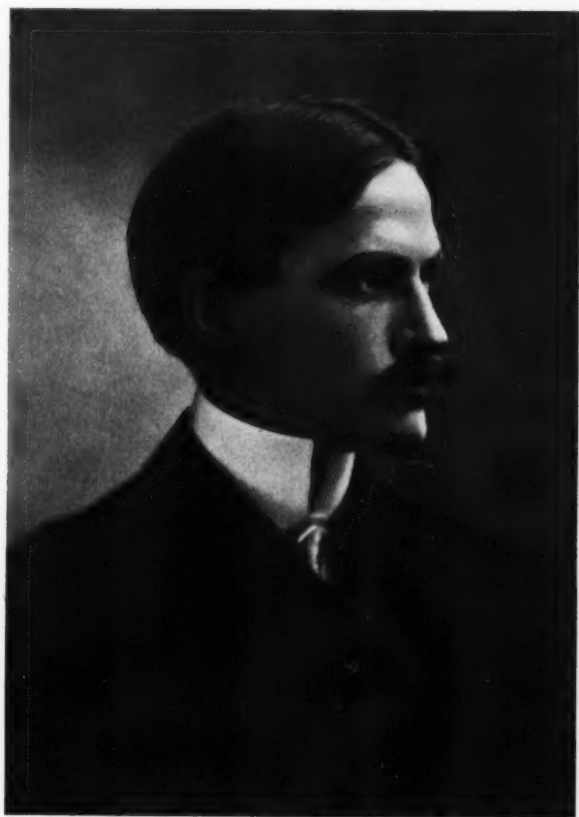
Born Dec. 22, 1870: Died July 26, 1899

NATHAN RUSSELL HARRINGTON, sent out by the University as the senior member of the second Senff Zoölogical Expedition to the Nile, died at Atbara, Soudan, on July 26, 1899. His loss is a peculiarly sad one; for, with every prospect of a brilliant future, he encountered deliberately the dangers of his chosen work, and laid down a life which the University can justly mourn.

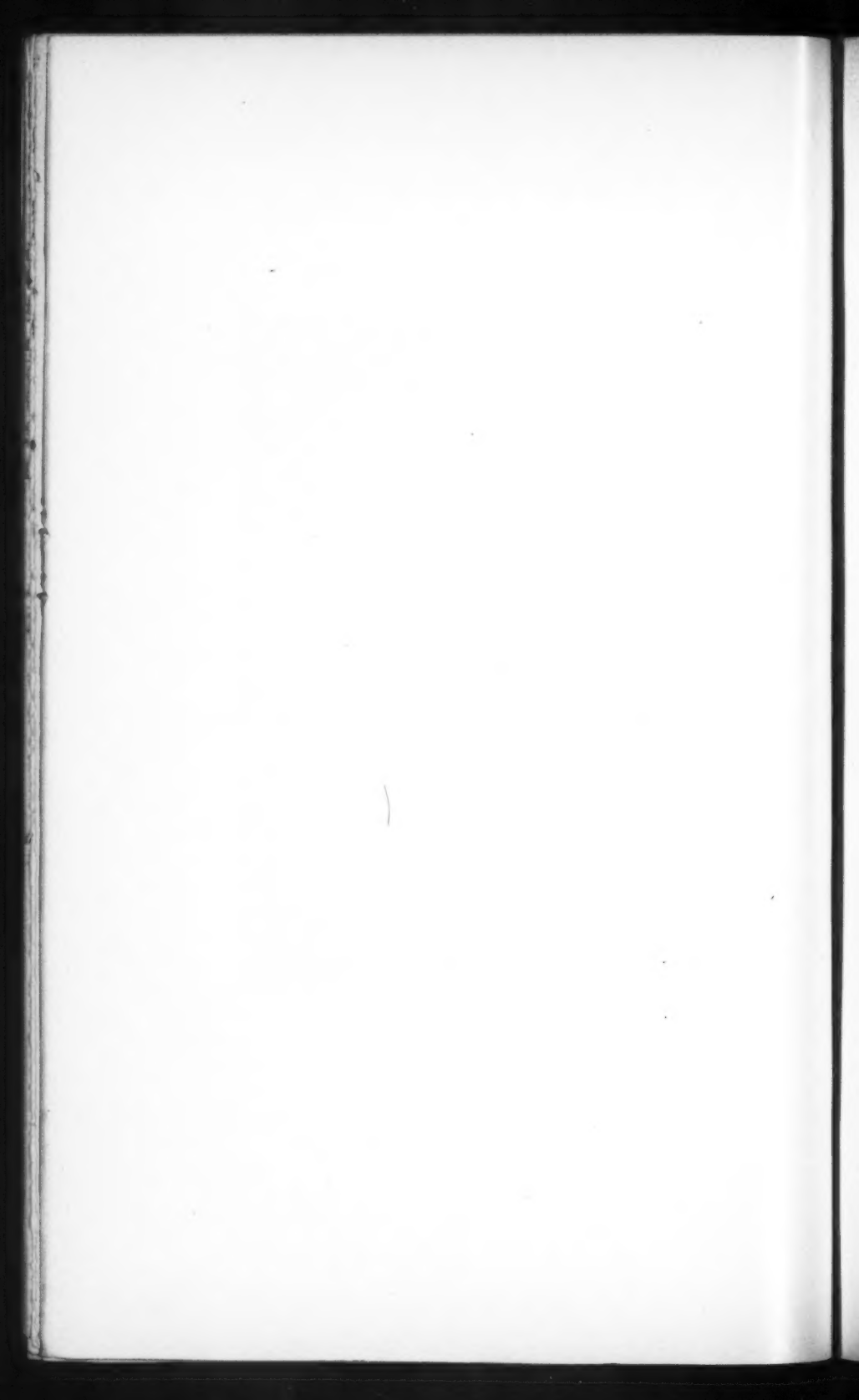
An account has already been given in the *Bulletin* (1898, No. XX., pp. 260-261) and the *QUARTERLY* (1898, Vol. I., pp. 100, 103) of the purpose and results of the first expedition to the Nile. It will be recalled that the department of zoölogy had organized this expedition for the purpose of securing material for the study of the African *Polypterus*, a fish which is generally regarded as the aquatic ancestor of the land living animals. The first attempt to secure the developmental stages of this rare and important type was encouraging, but not successful. Mr. Harrington, then fellow in zoölogy in Columbia, and Dr. Reid Hunt, tutor in physiology, spent the summer of 1898 on the lower Nile, returning with many specimens of *Polypterus*, and important notes regarding its habits; but they were unable to secure its eggs and embryos. The Nile rose rapidly before the fish had spawned, rendering further work impossible; and, as a result of the first expedition, it became clear that, if the eggs were to be obtained in the Nile, they should be sought in the upper part of the river.

Accordingly, during the past spring, thanks again to a generous gift of Mr. Charles H. Senff, a second expe-





NATHAN RUSSELL HARRINGTON



dition was organized, very largely through the energetic efforts of Mr. Harrington, in order to seek for the desired material in the region of the White Nile. The project became a distinctly more dangerous and difficult one than the first; for, with the risk of tropical fevers, the party would now have to carry on their work in a country which, owing to Mahdi disturbances, was still semi-hostile. The difficulties were not, however, regarded as insuperable; and Mr. Harrington and the two other members of the party, Mr. Francis B. Sumner and Dr. Reid Hunt, were soon heart and soul in the project. The organization of the party was largely the work of Mr. Harrington, and his, too, was the executive work, which he carried on in the field with energy and devotion.

The first difficulty the party encountered was in obtaining permission of the British government to proceed up the Nile. This caused Mr. Harrington to journey to England in advance of the others, only to encounter a series of official delays, which bade fair to defer the work of the party until too late. Under these adverse circumstances, many would have turned back, but there was still one opening left and Harrington seized it. Proceeding directly to Cairo, he was enabled to meet Lord Cromer, the English Governor of Egypt, with whom he pleaded his cause in such a way that, much to the surprise of officials, he obtained the necessary passes into the Soudan for his party. He cabled his friends, all were soon at the British outpost, Atbara, and the success of the expedition seemed almost assured. Then came his sickness and death. On one of the excursions up the river, in company with Mr. Sumner, he was overtaken by a sand storm and spent a night in the desert. Shortly afterward a fever developed and, in spite of every care that could be given him by his devoted friend, Dr. Hunt, and by Dr. Nickerson, surgeon of the British garrison, he sank rapidly. Short as had been his stay at Atbara, he had made many friends. His funeral

was arranged by the Commandant, Bimbashi Swabey; the Egyptian battalion and its officers were his pall bearers; and the British officers, the Governor of Berber, and the Americans, including those constructing the Nile bridge at Atbara, followed him to his grave in the Christian cemetery.

Mr. Harrington came to Columbia in 1893, after his graduation from Williams College, and remained for four years as post-graduate student, assistant and fellow. During this time he spent his summers either at the zoölogical station at Wood's Hole or on the various expeditions of the department of zoölogy, to Puget Sound, Alaska and Africa. At Columbia he completed his zoölogical training, and was awaiting only the publication of an extended thesis, now in press, to receive the degree of Doctor of Philosophy. At the time of his death he held the position of instructor in zoölogy in Western Reserve University.

As a zoölogist, Mr. Harrington had before him the brightest of prospects.\* He carried on his studies with enthusiasm and with rare energy and perseverance. He regarded no difficulty as insurmountable; and from the time the project of the study of *Polypterus* was first formed, Mr. Harrington was at once spoken of as one who had every qualification to succeed in this important but perilous work. He undertook it with a remarkable devotion; he was thoroughly convinced of its great importance to zoölogical science; and he was willing and ready to make any and every sacrifice in its behalf. He realized clearly the danger of the undertaking, and he was only with difficulty dissuaded from an attempt to carry on his work in the fever stricken district of the west coast of Africa, where the chances of success seemed better than in Egypt. He has left behind an example of devotion which will ever crown his work.

BASHFORD DEAN

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\* Cf. Professor F. H. Herrick's notice, which also gives a list of his published writings, in *Science*, N. S., Vol. X. (1899), pp. 529-531.

## EDITORIALS

President Low's reports share with President Eliot's the honor of being read and studied more earnestly than are most other documents of the same sort. Their value is two-fold: by statis-


**The President's Report** tics they point out the path which the University has been following and make actual conditions clearer; and by hint or plain statement they so define the policy of the University that the campaigns it proposes are evident even to the mere private in the educational ranks. In point of statistics, the Columbia reports are not yet so valuable as those issued by Harvard, but they are fast becoming so; and the policy of the University in many matters of interest is indicated with force and skill. Several of the points discussed in the *Report* for 1898-9 are treated in the following editorial paragraphs; but our readers are advised to turn to the *Report* itself for the comments on the important steps taken during the year, and particularly to the remarks upon the Summer Session, the proposed School of Commerce, university and college athletics, and the substitution of scholarships for free tuition.

The academic year ending on the thirtieth of last June completed the first ten years of President Low's administration, and in his annual report he calls attention to the advances which the

**The Results of a Decade** University has made in certain directions during the decade. The officers of instruction have increased from 170 to 339, including an increase of professors and adjunct professors from 41 to 84. The growth in the number of students is shown by the following table:

	1889-90	1898-99
Undergraduates .....	269.....	403
Graduates .....	515.....	801
Non-graduates .....	877.....	1004
Total .....	1661.....	2208

These figures do not include Barnard College or Teachers College; but as both of these institutions have become part of the University under President Low's administration, they should properly be added:

 Barnard, undergraduates and graduates.....	278
Teachers College.	
Candidates for diploma and special students....	297
Extension students.....	1173
	<hr/>
Auditors.....	1470
	<hr/>
Grand Total.....	34
	<hr/>
	1782

Including these statistics, we have a grand total of 3990 students affiliated with the University at the end of the last academic year.

Other statistics which are not presented by the President, but which are a matter of record, are no less significant. The Library has grown from 109,200 to 275,200 volumes, and the circulation of books to be read outside the Library has increased from 16,004 to 77,261. In 1889-90 the income of the University from all sources was \$519,006, and its expenditure for educational purposes was \$458,420. Last year its income from general funds was \$750,700; from trust funds, \$45,349; from gifts and other receipts for current uses, \$58,275; while the amount expended for educational purposes was \$794,047.

It is difficult to state accurately how much the University has received in gifts during the decade, as many of these gifts have been in the form of books and equipment, such as the Temple Emanuel Library, the Allis Laboratory, and the Worthington Hydraulic Laboratory, representing in all an estimated valuation of several hundred thousand dollars. In addition to gifts of this nature, the University has received in cash, securities and real estate, including the land and buildings acquired upon the consolidation of the College of Physicians and Surgeons, no less than \$6,736,482. If further evidence is needed of the advance which the University has made since 1890, it is only necessary to point to the new site and buildings on Morningside Heights, as contrasted with its former accommodations at Forty-ninth street, and to view the buildings not merely as masses of brick and stone, but as the external signs of a University which has not only developed in a physical sense, but which has grown great as a factor in the educational life of the country.

Measured by former experience, the University has received larger acquisitions and has made greater advances during the

past ten years than in all its previous history. But great as are these results, their importance can be appreciated only when they are considered in reference to the possibilities which they offer for still further development and usefulness. Large as may be the resources of a university, its needs must always be in excess, if it is to keep pace with the demands which are made upon it and which it should be prepared to meet. Greater possibilities create new responsibilities and new requirements; hence the needs of the University are rather more urgent than ever, as its field has become wider; but the record of these years offers the most encouraging assurance that those needs will be provided for, and that what has been accomplished during the past ten years will lead to still greater results in the coming decade.

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South Hall is henceforth to be the name of the building formerly occupied by the superintendent of buildings and grounds, and to it are to be transferred the Department of Music, the

**Students' Hall**

University Chorus and the University Orchestra. In more senses than one this change

will afford relief to West Hall. The space left vacant will be in part re-distributed among the departments still occupying the building, and it will be possible to give considerable room to the Graduate Club and other student organizations and to undergraduate publications. The former will have quarters on the fourth floor and the latter in the basement. The resultant gain to the student life of the University is considerable, and further gains will doubtless be made whenever the restaurant can be removed to a more suitable and adequate building; but it is not to be expected that suitable social conditions of undergraduate life will ever be secured until we have a building planned for this purpose and devoted to the use of the students. While it cannot properly be considered the duty of the University to provide such a building, the Trustees have fully recognized its extreme desirability, and in the general plan of buildings to be erected on the Quadrangle they have designated a site for a Students' Hall. The President, too, makes an urgent plea for it in his annual report. "There is also greatly needed," says he, "on the western side of the grounds, a building



which shall be the headquarters of the social life of the students. The University of Pennsylvania has been fortunate in receiving the gift of such a building, which is known as Houston Hall. I gather that there is no more valuable adjunct to the life of the University than this building. Such a building should also give accommodation to all of the student organizations. It would thus add immensely, not only to the pleasure of the student's life, but also to the training value of his experience as a student."

Houston Hall is, so far as we are aware, the only building of its kind and the only one which seems to be in all respects adapted to meet our requirements. It furnishes an excellent model of the Hall which our undergraduates should endeavor to secure for Columbia. Harvard has just received from Major Higginson a gift of \$150,000 for a University Club. Why should not a like spirit of generosity prompt some one to present Columbia with a Students' Hall?

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An important step was taken by the Trustees at their November meeting, in voting to proceed with the building of the first story of University Hall,—that is, of the first story above the

University Hall basement,—provided \$125,000 is raised for the purpose. At the same time, they pro-

posed to the Alumni Hall Committee that the Memorial Hall Fund should now be used for temporary construction and agreed to credit the cost of the permanent structure with the amount so advanced. The Alumni Committee has approved of the plan and has undertaken to secure the assent of the subscribers to the Fund. Doubtless this consent will readily be obtained, as the proposed plan—if carried out—will at once render the Fund effective as a means of providing a dining hall, which, however incomplete in detail, will be serviceable for meetings of the Alumni and for the daily use of the professors and students. As the Fund now amounts to very nearly \$70,000, it is only necessary to secure an additional sum of about \$55,000 to meet the entire cost; and this sum, the Alumni Committee, aided by the Committee on Buildings and Grounds of the Trustees, desire to raise at once. Their task should not be difficult; for every graduate of the

University who is in the least familiar with existing conditions realizes the imperative necessity of providing a dining hall which shall not only be adequate for our present urgent needs, but which shall meet the wants of the students whom we shall have in residence as soon as dormitories are built, and which shall also give the Alumni their own proper place for their meetings at Commencement and on other occasions. Doubtless the efforts of the Alumni Committee will also be materially aided by the action of the Trustees, so far as it indicates an intention that the project for an Alumni Hall shall become an immediate reality; nor will the satisfaction which every graduate will derive from this fact be diminished if the Hall, for the time being, does not possess the lofty proportions or beautiful finish of the architects' design. The fact that it is now within easy reach of the Alumni to secure, at once, the essential result at which they have been aiming, cannot fail to arouse their interest and to appeal to their generosity.

In order to make clear the present intention of the Trustees to those unfamiliar with the plans of University Hall, some explanation is perhaps necessary. The portion of the building already erected, including the Gymnasium and the power house, constitutes only the basement. This is now protected by a temporary roof, which is a few feet above the level of the Quadrangle. Upon this basement it is intended ultimately to erect a building of about the same height as the adjacent buildings, the front or southerly portion of which is to include the Alumni Memorial Hall and a number of rooms and offices, while the northerly portion is to be occupied by the University Theatre. Under the plan in immediate contemplation, it is proposed to construct the upper portion of the entire building to an additional height of fifteen feet six inches—the height of the first story—and to raise the present temporary roof proportionately. This will at once furnish a large amount of additional floor space, which will be available for a dining hall and kitchen, for a large lecture room seating 1,000 or 1,500 persons, for offices for the Superintendent and the Bursar, and for a number of other rooms. The substitution of a spacious dining hall for the cramped quarters now occupied by the restaurant in West Hall, will in itself be an immense gain; and the removal of the restaurant from West Hall will render that building much more com-

fortable for other purposes and will probably make it possible to allot more of the building to the uses of the students. Scarcely less to be desired is a large lecture hall for public lectures, adapted for audiences of the size of those which last winter so overcrowded our present lecture rooms. As it has always been intended to concentrate the business administration of the University in University Hall, the transfer of the Superintendent's and the Bursar's offices to this building will not only place them where their work can be done to much better advantage, but will locate them where they will remain permanently. This transfer will also have the effect of releasing valuable space for the use of the Library and of relieving the Library building of some of the bustle of business which is at times disturbing. Viewed in any aspect, the proposed plan commends itself as being most judicious. By no other possible means can the University secure so much additional room at so small a cost, or at a stroke accomplish so many desirable results; and it is greatly to be hoped that it may be made possible for the work of construction to be begun during the coming summer.

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Conscientious performance of duty characterized Mr. Vanderbilt as conspicuously in his capacity as a Trustee of the University as in the many other fiduciary positions which he held.

Cornelius Vanderbilt      In an address upon Mr. Vanderbilt "as a friend of education," which is printed on another page, President Low points out how effectively and generously he aided the University. Not only was his influence exerted in favor of the purchase of the new site, but he contributed \$100,000 for the purpose. He was especially interested in the College of Physicians and Surgeons, and to that also he gave liberally. On all matters involving large questions of policy his advice was eminently sound, and it was always expressed with a modesty which rendered it the more persuasive. Upon Cornelius Vanderbilt the responsibility of great wealth seemed to exert only the happiest influence. He was a man devoid of ostentation, a man of marked simplicity; and his action at all times seemed to be governed by the most earnest desire to make the best possible use of his vast opportunities.

Self sacrifice for the sake of a cause—for family, friendship, patriotism—is not so rare that we may doubt the power of ideals in shaping conduct, nor yet so common that we may fail to wel-

come a new name added to the roll of honor.

"Greater Love " In that record science has always had a glorious share; and now, in proof of devotion to her interests, a member of our University community—Nathan Russell Harrington—has offered up his life.

The annual reports for 1898-99 of the Secretary and the Treasurer of the University Press show that the Trustees of the Press have been remarkably successful in the administration of their small capital. During the five years

The University Press that have passed since the organization of the Press they have published in all nineteen volumes, not including the *QUARTERLY*. These volumes have been, in almost all cases, on somewhat abstruse subjects, and the ordinary publisher, with profit chiefly in view, could scarcely have ventured to issue them. Yet the Press finds itself with its capital unimpaired and the pleasant consciousness of having been the means of publishing a remarkable list of scholarly works. The Press now contemplates issuing a separate catalogue of its publications and acting as agent for some of the "studies" issued by the various departments of the University. All this leads us to wonder whether the benefactor of education would not be wise in choosing to endow somewhat liberally an institution like the Press. It would obviously be possible under careful management for even a large capital to be kept intact and at the same time to contribute, in an important way, to the causes education has most at heart.

That the truth may not be told by figures is a commonplace; yet a few statistics bearing on the record of the *QUARTERLY* during its first year may furnish a basis for reflection as to the ac-

The First Year of the *Quarterly* of the University. Of the four numbers of Vol. I., 15,800 copies were printed, an average of 3,950 per issue. These numbers contained a total of over one and three-quarter

million pages of matter relating to Columbia, and these pages were not only spread all over the whole United States—from Maine to New Mexico and from Washington to Florida—but were also sent to many foreign countries, including England, France, Germany and even Japan and India.

However these particular figures may be interpreted, it is undeniable that the *QUARTERLY* is succeeding in making widely known the progress of the University. Some such record and means of self expression the University certainly needs; and the *QUARTERLY* aims to be a faithful exponent of Columbia's ideals, methods and good works. That the *QUARTERLY* also meets a real need of the alumni is shown in many ways—but especially by the fact that more than half of the graduates of the College are regular subscribers, while the list of subscribers from other departments of the University is steadily growing. The more cordial and wide-spread such support becomes, the more successfully can the *QUARTERLY* do its work.

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At the annual meeting of the Trustees of the University Press, Nov. 22, 1899, the following gentlemen were elected editors of the *UNIVERSITY QUARTERLY* for 1899-1900: from the College,

New Officers of the Quarterly	Professor G. R. Carpenter; from the Faculty of Applied Science, Professor Robert Peele; from the Faculty of Law, Professor G. W. Kirchwey; from the Faculty of Medicine, Professor E. B. Cragin; from the Faculty of Philosophy, Professor Calvin Thomas; from the Faculty of Political Science, Professor W. A. Dunning; from the Faculty of Pure Science, Professor R. S. Woodward; from Teachers College, Professor J. E. Russell; from the University Press, John B. Pine, Esq.; from the University Library, Dr. J. H. Canfield. Professor Calvin Thomas was elected Managing Editor for 1899- 1900, in place of Professor G. R. Carpenter, who has held that position since 1894. In the future it is the intention of the Trustees of the Press that, so far as practicable, each editor shall in turn serve for a year as Managing Editor.
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If the successful development of a football team were to be considered merely in and of itself, it may be doubted whether

the achievement could be discussed in these pages. But this

**A Turning Point  
in Athletics**

particular event has much significance from two points of view: first, it is largely the result of a growing force which is itself aiding to develop college loyalty; and, secondly, it is a tangible proof of the rapid growth of a healthy interest in athletics at Columbia. As regards that subtle but powerful sentiment known as college loyalty, all discussion—as to whence it comes, what it feeds on, how it affects students and alumni—may be deferred; it suffices to record the fact that the conditions at the new site have made its influence more strongly felt, as in the support given to the football team. As regards the general status of athletics, however, current events warrant our calling attention to three, among many, recent developments.

(1) The gymnasium is becoming more and more an indispensable adjunct to the daily life of the University—not alone for those students who, in their freshman and sophomore years, are required to join in the class work, but also for those, both students and officers, who find relaxation, invigoration and strength in regular exercise. (2) With growing interest and more general participation in athletics has come a realization of the difficulties of carrying on successfully the business affairs of the various athletic teams—difficulties particularly great in New York City—and this has led to the movement for the concentration of all such work in the hands of a central athletic organization, such as has been found necessary at Harvard and Yale. (3) In the movement toward concentration a powerful argument has been the admitted need of such management as should keep athletics at Columbia free from all taint of professionalism. It is gratifying to note that the general sentiment of students and alumni is unmistakably in support of President Low's assertion that "the good faith of the University itself is engaged in maintaining the amateur character and the genuine student standing of all men who may represent Columbia in athletics."

## THE UNIVERSITY

The plans for the first **Summer Session** of the University, which have now been made public, indicate that a strong and well organized addition to the educational work of Columbia will be made through this new departure. Courses of instruction are to be offered at the summer session of 1900 in a large variety of subjects, and the policy has been pursued of putting instructors of full rank and experience in charge of the work.

The session will open on Thursday, July 5, 1900, and each course of instruction will consist of thirty lectures or other exercises, or their equivalent in laboratory or field work, the several courses closing on Wednesday, August 8th. The two following days, August 9 and 10, will be devoted to examinations. Students in the summer session who pass successful examinations on the courses which they have pursued will be entitled to claim credit for the same toward the various college and university degrees, and toward the diplomas of Teachers College. In this way students will be able to anticipate, in part, some of their regular college or university work, or they will be able during the summer session to take advantage of certain courses of instruction which, for one reason or another, are beyond their reach during the usual academic year. It is believed that the attendance at the summer session will be made up in about equal parts of teachers who wish to come to the university for the study of education, or for advanced work in the subject-matter of their several specialties, and of present and prospective students of the college and the university, who look forward to the usual degrees and diplomas.

The offices of the Director and the Secretary of the Summer Session will be open for registration on July 2 and 3, and it is hoped that a large proportion of the students, if not all of them, will register at that time.

For tuition a uniform fee of \$25 will be charged, and for this fee the student may take one, two or three courses. Not more than three courses will be allowed to any student. The purpose of this regulation is to induce concentration of work during the summer session, in order that the greatest intellectual benefit



may be had from this period of study. The regular matriculation fee of \$5 will be charged in the case of all students who register in the university at the summer session for the first time. It will not be charged to students now enrolled in the University, including Barnard College and Teachers College; nor will any future matriculation fee be exacted of students who have once paid that fee at a summer session.

The gymnasium will be open throughout the day, and two systematic courses in physical training will be offered. The gymnasium fee of \$5 will be charged for those who take courses in physical training, and will include the use of a private locker and of the swimming pool. The swimming pool will be reserved during the morning hours for the use of women students.

Courses of instruction to be offered during the summer session of 1900 are the following: botany, 2; education, 5; English (including rhetoric and composition), 5; geography, 2; history, 1; manual training, 2; mathematics, 3; philosophy, 1; physics, 2, and psychology, 2.

The summer session is in charge of an administrative board consisting of President Low, Professor Butler and Professor Russell. The Director is Professor Butler, and the Secretary is W. H. Nichols, B. S., Secretary of Teachers College. The Faculty will consist of the following officers of the University: Professors Baker (F. T.), Butler, Carpenter (G. R.), Cattell, Dodge, Hallock, Jackson, Lloyd, McMurry, Monroe, and Richards, and of Drs. Keyser (mathematics), MacVannel (philosophy and education), Odell (rhetoric and composition), Savage (physical training) and Thorndike (psychology), with a staff of nine assistants.

The work of the **Appointment Committee** has developed very rapidly during the last few months, and the correspondence of the committee has increased to such an extent that it is only a question of time when a special clerk or secretary will have to be assigned to care for it. It is interesting to notice that there are more demands for skilled teachers outside of New York than the committee has yet been able to supply. The appointments secured for candidates during the past eight months carry with them salaries amounting to over \$32,000. Among the recent

appointments of Columbia students or graduates, to which the committee has in some degree contributed, are the following: Rev. Lawrence T. Cole, Ph.D., warden of St. Stephens College, Annandale, N. Y.; David R. Major, Ph.D., acting professor of education in the University of Nebraska; Corliss Fitz Randolph, principal of the 15th Avenue School, Newark; W. W. Shaffer, principal of the 7th Avenue School, Newark, N. J.; George F. Heffelbower, A.M., instructor in history and English, St. Matthews School, Pocantico Hills, N. Y.; Dana C. Wells, A.B., principal of the High School, New Milford, Conn.; Benjamin R. Howell, instructor in English, University of Utah, Salt Lake City, Utah; Frederick W. Sanders, Ph.D., president of the New Mexico College of Agriculture and Mechanical Arts, Mesilla Park, N. M.; Hugh H. Herdman, Jr., A.M., instructor in English, Portland Academy, Portland, Oregon; Horatio S. Krans, A.M., instructor in English, Wooster University, Wooster, Ohio.

The College Committee on Admissions was last year reorganized, given greater powers and cut down in its membership to the limits of an active body. The committee has divided its very onerous and often irksome duties among its members, so that no individual has been unduly burdened and the labors of all have been rendered more effective. It has thus been possible for the committee to assume full responsibility for the preparation, printing and distribution of examination papers, for the proctoring of examination rooms, for the grading of papers and for all details pertaining to the admission of new students to all classes. Previously these matters had been largely left to the separate departments, each acting for itself and consequently often at cross purposes with others. The effect of this centering of responsibility is already telling to the advantage of the University. Much yet remains to be done—the committee must soon have its own office and clerk,—but a good beginning has been made.

#### SUMMER COURSES—1899

*Department of Geology.*—During the past summer two sessions of the summer course in geology were held for different squads of men. The first was in the valley of the Hud-

son, and was passed partly upon the Cortland series of igneous rocks near Peekskill, with Professor Kemp in charge, and partly at Rondout, under Mr. van Ingen, in study of the sedimentary strata. The second session was held at Wilkes-Barre and the Delaware Water Gap, Penn., and at Deckertown, N. J.

*Geodesy.*—Professor Jacoby, assisted by Dr. Mitchell and Messrs. Derleth, Kretz and Falk, had charge of this course. The students of the fourth class in civil engineering, in attendance at this school, made astronomical observations and a geodetic survey at Osterville, Cape Cod, Mass. This work lasted about six weeks.

*Mechanical Engineering.*—The summer of 1899 was the first in which both the first-year and the second-year classes in shopwork were in operation. These classes are intended to secure one hundred hours of consecutive work in the shop, free from the interruptions necessitated by the class-room demands of the rest of the year. It was found possible to begin the exercises on the 26th of May; and they were arranged to occupy six hours each day, with half a day only on Saturday, until the required time was completed. The hours were so adjusted that before the 20th of June the students were released for the enjoyment of their summer vacation. The first-year students carried forward the work in pattern making and in the foundry. The students were instructed in the method of making simple and complicated moulds, from patterns which they had themselves constructed, so that they might become familiar with the limitations imposed by the processes and the materials which contribute to the making of castings. In the absence of a proper furnace for melting for the casting of iron, the castings made by the students were run by a soft metal alloy which possesses many of the qualities of cast iron, so far as its fluidity is concerned, but which can be poured at a much lower temperature. For the second-year students the class work consisted in carrying forward the work which had been done by the students during the school year. It was intended to lead up to the processes which are used in the manufacture of a mercantile product, and a higher standard of finish was exacted than was possible during the shorter work periods of the regular year.

*Metallurgy.*—This course, in charge of Professor Howe and Dr. Struthers, was given in September. The members visited the metallurgical works at Baltimore, Md., Bethlehem, Pa., and Perth Amboy and Newark, N. J.

*Mining.*—This course, in charge of Professor Peele, assisted by Messrs. W. S. Thyng and Charles Fulton, was held in Missouri and Pennsylvania. On Saturday, May 27, the class assembled at Flat River, St. François Co., about sixty miles south of St. Louis, and two weeks were devoted to systematic study of one of the interesting lead mines of the region. The class was then taken to the Wyoming Valley coal field of Pennsylvania, where headquarters were established at Wilkes-Barre. During the remainder of the five weeks' session, daily visits were made to a number of mines of the Lehigh Valley. Nine collieries were visited, among which were some of the largest in the district. Two days were spent in the great breaker of the Prospect colliery, which prepares for market between 3,000 and 4,000 tons of anthracite coal per day of ten hours. The mines of this district are noted for being extremely gassy, requiring the extensive use of safety-lamps throughout the workings. Several good examples of underground haulage, by wire rope and by compressed air locomotives, were studied. The usual mine surveys were made, part in the lead and part in the coal mines. The summer course was everywhere favored with generous facilities for the work. Twelve students attended the session, eleven of the fourth-year class and one graduate of Stevens Institute. In addition to these, five other fourth-year students, by special arrangement, were engaged in independent summer work, in various mining districts. R. P.

#### THE LIBRARY

In the organization of the staff of the Library—which can scarcely be called reorganization, because the Librarian has done little more than make definite the prior position and responsibility of each member—the following appointments were definitely made during October:—

Miss Margaret Van Zandt will be known hereafter as Supervisor of the Order and Accession Department. The work of

this department has not been enlarged in any way, but hereafter officers of the University will communicate directly with Miss Van Zandt with regard to all purchases. In this department Miss S. E. Wallace is made first assistant, and thus placed in direct line of promotion.—Miss Harriet B. Prescott becomes Supervisor of the Catalogue Department, which includes responsibility for classification. Miss M. L. Irwin is made first assistant and Miss O. Williams is made second assistant, the intention being definitely to recognize both as in the line of promotion.—Mr. J. T. Gerould is made Supervisor of the Department of Serials. Hereafter this department will include all publications which are continued indefinitely, and all annual and other reports, except those complete in themselves and ready (with or without binding) for the shelves. It does *not* include individual books appearing in parts. For the present Mr. Gerould will be in charge of the binding done for the Library.

The Librarian has established what he designates as the Readers' Department, with two divisions—the reference division and the loan division. The purpose of the reference division is to render all possible assistance to readers in connection with their work, and to University officers in the selection and purchase of books. Mr. C. A. Nelson is made Head Reference Librarian, and editor of Library publications. Mr. Edward R. Smith is made Reference Librarian of the Avery Library. Mr. W. A. Switzer is Law Librarian. It is in this division of the Readers' Department that the Librarian hopes to organize a full corps of reference librarians, including at least one thoroughly competent, well trained, experienced man for each of the great divisions of the Library. This corps of expert workers is absolutely necessary to the highest efficiency of a large library, and can do more to make such a library accessible and useful than all other agencies combined. So far as the general reader is concerned, and especially in the case of the inexperienced reader, the general card catalogue is sure to break of its own weight: the average man is simply swamped by the multiplicity of references. To all these readers the reference librarians can be guide posts and most desirable aids in every undertaking. The completion of this corps of workers is a matter of time and of money—of how long a time and of how much money remains to be seen.

Mr. Frederic W. Erb is Supervisor of the Loan Division, and will have the general care of all the books of the Library while in use.—Mr. George Heckroth has been appointed Supervisor of the Shelf Department, with the usual duties attaching to such a position. For the present the Supervisor of the Shelf Department will be in charge of all duplicates, of *Columbiana* and of all dissertations. The Supervisor of the Department of Serials will be in charge of theses.

It has been practically settled that at the earliest possible moment—probably not later than the opening of another University year—the Library will set up presses of its own, sufficient to do all the printing which falls exclusively within its province. This work will be taken up in the following order: (1) catalogue cards and other similar Library matter; (2) stationery and such minor supplies; (3) library publications. The purpose is not to establish or even to anticipate a University printing house, in the general and wide sense of those words; but simply to substitute printed cards for those which are now prepared by hand, and to care for the other work indicated above.

As soon as possible, also, the work of binding the greater portion of the serials will be done in the Library building. This will bring such work directly under the constant supervision of the Library authorities, will save the handling and transmission of matter, will keep valuable and rare books in a fireproof building and, above all, will keep periodicals where they can be seen at all times in answer to emergency calls.

The Librarian reserves for himself general executive duties, holding himself responsible for the general relations of the Library to the different departments of instruction in this University, to other libraries and to the general public. He will determine the general policy of Library administration, the appointment and dismissal of all members of the staff, and the selection and purchase of all books and periodicals—with the general advice and counsel of the President and officers of the University. Though the Librarian's hours are announced as from ten to half past twelve each week day except Saturday, he will see all officers of the University and others interested at any hour of any day that he may not be otherwise engaged.



## FACULTY OF APPLIED SCIENCE

*Department of Chemistry.*—The number of students taking courses in analytical chemistry and assaying is very large, mainly because new students from other colleges have entered advanced classes. The more important changes in the courses since last year are: (1) The division of the class in assaying into two sections, so as to give the men better laboratory facilities. One section attends each term, and the lectures are repeated, so that the instruction and practical work may go on at the same time. (2) The courses in inorganic quantitative analysis for the mining engineers and the chemists have been entirely separated, in order to give the former more rapid methods and the latter a more scientific treatment of the subject. With the chemists particular attention will be paid to the calculations of analytical chemistry.

During the absence of Prof. Ricketts, the lectures on inorganic quantitative analysis and on assaying and the charge of the laboratories are taken by Dr. Miller. The course on commercial organic analysis will be given by Dr. Sherman, who has had especially valuable experience in the analysis of foods with Prof. Atwater. The recitations on inorganic quantitative analysis are now in charge of Dr. Joliet.

Dr. Miller and Dr. Mathews have begun an investigation on the cobaltcyanides which will require much time for its completion. Mr. Neish, postgraduate student, has taken for his thesis the investigation of the formulæ and properties of some of the insoluble ferrocyanides, thus following up the work done by Drs. Miller and Mathews on the ferrocyanides of zinc and manganese in 1897.

*Department of Electrical Engineering.*—Professor Crocker, after a year's leave of absence, has resumed his lectures. He spent his sabbatical year in making a journey around the world, taking the westerly course and visiting Japan, China, the Philippines, India, France and England. While at Manila, he was an interested spectator of the first engagement between the insurgents and the Americans. During his travels he has contributed to the electrical papers of this country numerous interesting articles on the electrical industries of Japan and China.



The following changes in the teaching staff of this department have occurred this fall: William H. Freedman, C.E., E.E., has resigned the position of tutor in electrical engineering, to become professor of electrical engineering at the University of Vermont. Mr. Freedman was a member of the first class at Columbia ('91) to graduate with the degree of Electrical Engineer and for eight years has rendered most faithful and efficient services in the teaching staff of this department. He has already contributed to the literature of his profession many articles on the results of experimental investigations, and will have even better opportunities for such work in his present higher position. To fill the vacancy created by Mr. Freedman's resignation, S. G. F. Townsend, A.B., E.E. ('96), has been promoted, after serving with great credit for three years as assistant. The latter position is now held by C. S. Aylmer-Small, E.E. ('99).

The following investigations formed the subjects of the theses for the members of the class which graduated in June, 1899: Test of the power plant of Columbia University.—Investigation of the alternating current frequency changer.—The temperature coefficient and current carrying capacity of commercial aluminum wire.—Design of an alternating current electric lighting plant for the town of Great Neck, Long Island.—Measurement of the cyclic change of temperature in the cylinder of a steam engine.—The application of the theory of asymmetrical resistances.—Efficiency and current harmonics of the induction motor.—Cost of operation of horse and electric delivery wagons in New York City. The matter contained in the last investigation was presented before the annual meeting of the American Institute of Electrical Engineers at Boston, in June, by the authors, C. F. Sever and R. A. Fliess.

Additional apparatus has been purchased by the department during the summer and fall as follows: 1 ten h. p. motor starting rheostat, 12 arc lamps of various styles, 12 alternating current fan motors for experimental purposes, 3 lightning arresters (General Electric Co.), 5 alternating current inclined coil ammeters, 1 500 ampere Weston portable ammeter, 1 0-15, 0-150 portable voltmeter (Weston), 1 laboratory telescope (Queen & Co.), 1 trolley stand (one of the first forms employed in railway work, and valuable from a historical standpoint).

G. F. S.

*Department of Metallurgy.*—During the summer of 1899, Prof. Henry M. Howe was for two weeks in charge of the summer course in metallurgy. Also, besides continuing his large-scale investigation at High Bridge, N. J., and Sandy Hook, N. J., into the relative corrosion of iron, steel and nickel steel in air, fresh water and sea water, and preparing articles on "The Lower Limit of the Critical Point Ar<sub>1</sub> in Iron," and "The Influence of the Rapidity of Cooling in the Hardening of Steel," he did a large amount of work in preparation for the second volume of his treatise on *The Metallurgy of Steel*.

Dr. Struthers has resigned his position as tutor in metallurgy, his resignation to take effect January 1, 1900, and will then become assistant editor of the *Mineral Industry*, published by the Scientific Publishing Company, 253 Broadway, New York City.

Mr. Parker C. McIlhiney is publishing in the *Journal of the American Chemical Society* the results of an investigation on the halogen absorption methods of fat analysis, and will soon publish the results of some investigations on methods of varnish analysis. He also has in preparation a report upon linseed oil and its adulterants, which is to be published by the Commissioner of Agriculture of New York State.

#### FACULTY OF PHILOSOPHY

*Department of the Germanic Languages and Literatures.*—Arthur F. J. Remy, A.M., has been added to the teaching force, with the title of assistant in Germanic philology. Mr. Remy is a graduate, in the class of 1890, of the College of the City of New York, where for three years subsequently he taught Greek and Latin. During the year 1896-97, he was a graduate student in this University. The following year he held a University scholarship in comparative philology and received the degree of A.M. In 1898-99, he was University Fellow in comparative philology. Mr. Remy has contributed articles to various journals on Indo-Iranian subjects and has recently translated into German Professor Jackson's article on *Die Iranische Religion*, for Geiger's *Grundriss der Iranischen Philologie*.

Through the efforts of Professor Woodbery, about one hundred and sixty valuable volumes have of late been added to those on Leopardi already in the Library.

*Department of Latin.*—Dr. Olcott offers this year a course on the "Topography and Monuments of Ancient Rome," a subject of considerable interest to classical teachers, but which has never been given at Columbia. The course will illustrate the monumental history of the city from its foundation until the fall of the Western Empire, and will be illustrated with a large collection of photographs and lantern-slides. It will continue throughout the academic year.

Professor H. T. Peck has just published a volume of essays, entitled *What is Good English?*

*Department of Literature.*—The degree of D.C.L. was conferred on Professor Brander Matthews by the University of the South in June last. Professor Matthews has in preparation a volume of essays on the historical novel. He has recently published *A Confident To-Morrow*, a novel of New York, and has collaborated with Mr. Bronson Howard in writing a play, *Peter Stuyvesant, Governor of New Amsterdam*, acted in New York last October.

*Department of Psychology and Anthropology.*—Mr. Clark Wissler, of the Ohio State University, has been appointed assistant in psychology, in succession to Dr. S. I. Franz, who has accepted an assistantship in Harvard University. Mr. Wissler, who holds a higher position in the Ohio State University, has been granted leave of absence for two years, in order to learn the methods of the Columbia laboratory.

Mr. A. L. Kroeber, University Fellow, made a study last summer of that part of the Arapahoe tribe that is settled in Oklahoma Territory. The investigations were directed toward the ethnology and language of the tribe which is a branch of the Algonquin family.

Mr. John R. Swanton, University Scholar, spent the summer months among the Sioux Indians of South Dakota, carrying on studies on the Teton Dialect of that language.

*Department of Romance Languages.*—The Thursday afternoon French lectures were resumed on November 2. Two special lecturers were secured for the course: Mr. Louis Herbette, member of the French Conseil d'Etat, who spoke on "Paris et la France à la veille de l'Exposition de 1900," and Mr. Jean

Schopfer, the brilliant author of *Un Voyage idéal en Italie*, who gives four illustrated lectures on French art.

Mr. Henri de Régnier, the distinguished French poet, who is to give the Hyde French lectures at Harvard, will lecture at Columbia, on March 22, 24, 26 and 29.

Professor Cohn has undertaken, for Silver, Burdett & Co., the preparation of a series of modern language text-books. Among the Columbia men who have thus far agreed to contribute to the series are Professor Speranza, who will edit a volume of *Episodes from Dante's Divina Commedia*, and Mr. Loiseaux, who will prepare an *Elementary Spanish Grammar* and an *Elementary Spanish Reader*. Professor Cohn himself will contribute a *First French Book*, a *Grammar of the French Language for Schools and Colleges* and an edition of Molière's *Misanthrope*.

Dr. William A. Nitze has been appointed lecturer in Romance languages and literatures. Dr. Nitze, who received the degree of Ph.D. from Johns Hopkins University, in June, 1899, is about to publish a volume of *Studies on the Perlesvans*, which he presented as his doctor's dissertation.

#### FACULTY OF POLITICAL SCIENCE

*Department of Economics.*—Professor J. B. Clark is giving a course of lectures on the history of economic theory at Yale University.

Dr. J. A. Fairlie, formerly Fellow in administration and now prize lecturer at Columbia, has been filling the position of secretary to the New York Canal Commission during the past few months.—Dr. W. M. Burke, formerly a University Fellow in economics, author of the monograph on *Central Labor Unions*, has received a position as professor of history and economics in Albion College, Albion, Mich.—Mr. J. H. Dynes, formerly Fellow in sociology, has received a clerkship in the census office at Washington.—F. S. Hall (Ph. D., '99) fills a position in the Boston branch of the United States census bureau.

#### FACULTY OF PURE SCIENCE

*Department of Astronomy.*—The meteor shower expected November 15 and 16 will be observed by the astronomical staff and voluntary assistants. Col. P. S. Michie, U. S. A., of

West Point, has given Professor Rees permission to use the government's instruments in the observatory at the Military Academy. Dr. Mitchell will there make use of the Clark 12-inch and Fitz 10-inch equatorials, for mounting photographic apparatus adapted to spectrum work and meteor trails. Lieutenant Crabbs, U. S. A., will aid in this work. Professor Rees expects to work with Mr. C. A. Post in his private observatory at Bayport, L. I. Mr. Post has arranged to do considerable photographic observing. Professor Jacoby will remain in charge at the astronomical department of Columbia University. In New York City several photographers have offered their services and instruments to coöperate with the Columbia observers. Quite a large number of students will make eye observations, for counting the meteors and noting phenomena of especial importance. Professor Hallock, of the department of physics, with his assistants, will aid in taking photographs. As the university is not now provided with an astronomical observatory, aid must thus be secured from those properly supplied with mounted equatorial telescopes.

Professor Rees continued, during the entire summer, to make the observations for variation of latitude. This work required his presence in the city most of the summer, though Dr. Davis assisted in observing, from June 15 to July 15, while Professor Rees was ill. (Nov. 10.)

*Department of Botany.*—Preparatory to the removal of the Botanical Library to the Botanical Garden of the City, efforts have been made to fill up certain of the incomplete files of the botanical journals, with the result that—with one or two exceptions, which await the filling of standing orders—they are now practically complete. It is not generally known that in this particular the Columbia Library is the most extensive collection in the country. By December the library will be installed in its new and excellent quarters at the Botanical Garden.

Professor Underwood completed during the summer the publication of a guide to the study of the fungi, entitled *Moulds, Mildews and Mushrooms*, illustrated by ten plates, partly colored. (Henry Holt & Co.)

Dr. Marshall Avery Howe has issued his thesis, *The Hepaticæ and Anthocerotæ of California* in the *Memoirs of the Torrey*

*Botanical Club*, of which it forms volume seven. It forms the most important addition to the literature of the bryophytes that has appeared in America during this generation.

Dr. C. C. Curtis spent the greater portion of the summer in ecological exploration in the higher altitudes of Wyoming and Colorado. Although the collection of material was not the primary purpose of the journey, he obtained about a thousand specimens.

Dr. Herbert M. Richards has been suffering from an attack of nervous prostration, and is unable to carry on his work at Barnard during the year. He sails for Europe, in the hope of recuperation. A portion of his work has been placed in charge of Dr. Marshall A. Howe, and some of his graduate work is transferred to Professor MacDougal, at the New York Botanical Garden.

*Department of Geology.*—Two months of the vacation were spent by Professor Kemp in field work in the Adirondacks, for the U. S. Geological Survey.

Dr. Arthur Hollick has been engaged during the summer and autumn in geological field work on Staten Island, and has published several notes of considerable local interest in connection with his work, in the *Proceedings of the Natural Science Association of Staten Island*. The discovery of a Quaternary lake bed, in which were the remains of an arctic flora and a mastodon's molar, was one of the most interesting of his results.

The work of the department in the line of paleobotany has been especially active during the past summer. Dr. Hollick was a member of an expedition under the auspices of the Maryland Geological Survey and Johns Hopkins University, which was engaged in examining the formations along the shores of Chesapeake Bay and in collecting specimens. His special work was to report upon the fossil plants.

The Louisiana Geological Survey also engaged Dr. Hollick to examine and report upon a collection of fossil plants from that State. The report was completed during the summer and is now in the hands of the Survey ready for publication.

Dr. J. S. Newberry's posthumous work on *The Later Extinct Floras of North America*, edited by Dr. Hollick, has recently appeared as Monograph No. XXXV of the United States Geo-

logical Survey. It is a quarto volume of 295 pages and 68 plates and a notable addition to the literature of paleobotany.

Through coöperation between this department and Dr. J. M. Clarke, paleontologist of the State Museum at Albany, N. Y., work was this summer begun on a detailed study of the rocks and faunas of the Champlain series of northern New York. Mr. van Ingen, accompanied by Dr. Ruedemann of the State Museum, spent a month in examining the Calciferous and Chazy rocks in the vicinity of Valcour, near Plattsburg. A large and valuable collection of fossils was obtained from these rocks, which are among the earliest fossil-bearing strata found in the state. The collections, which are the property of the State Museum, will be studied by Mr. van Ingen and the results will be published in the State Museum reports.

John Duer Irving, recently Fellow in Geology, Ph.D. '99, has been engaged during the summer upon the U. S. Geological Survey in the Black Hills, S. D. B. F. Hill, present Fellow, has been in the field in Putnam Co. during the vacation for the N. Y. State Geological Survey.

*Department of Mathematics.*—For several years the need of greater facilities for the publication of mathematical investigations has been strongly felt. Accordingly, a short time ago the American Mathematical Society invited the coöperation of several colleges and universities in a plan whereby mathematical papers embodying original research might be afforded more adequate means of publication. The efforts of the Society have been crowned with success, and a new periodical, to be known as *The Transactions of the American Mathematical Society*, is to be published with the coöperation of Harvard, Yale, Princeton, Columbia, Haverford, Northwestern, Cornell, California, Bryn Mawr and Chicago. For the support of the undertaking each of these institutions has agreed to make an annual subvention. The participation of Columbia was ensured through a guarantee fund raised by friends of the University, which the University has agreed to accept and pay to the American Mathematical Society in annual instalments. The *Transactions* will be published quarterly, the first number appearing in January, 1900. It will be edited by a staff consisting of Professor E. H. Moore, of the University of Chicago, Professor E.



W. Brown, of Haverford College, and Professor T. S. Fiske, of Columbia University.

In this connection, it may be of interest to recall the fact that the American Mathematical Society grew out of a club which was started by the department of mathematics of Columbia University in 1888. In its early days the club was known as the New York Mathematical Society, but its growth was rapid, and by 1894 it had assumed a national character and was reorganized as the American Mathematical Society. The first president of the society was Professor Van Amringe and its first secretary, Professor Fiske. At the present time the Society includes among its members the professors of mathematics at almost every American university and college of good standing and a number of prominent mathematicians abroad. The secretary is now Professor Cole, of Columbia.

An early number of the *Transactions* will contain an investigation entitled "The Invariant Theory of the Inversion Group" by Edward Kasner, Ph.D. Dr. Kasner took his doctor's degree at Columbia University in June of this year. He was graduated from the College of the City of New York in 1896, and during the past three years has been pursuing advanced courses in mathematics at Columbia University. The paper just mentioned, prepared as a dissertation for the doctor's degree, is of decided scientific value; and its acceptance for publication in the *Transactions* is no small distinction for a doctor's dissertation. Dr. Kasner is at present at the University of Göttingen, Germany, where he expects to continue his studies during the current academic year.

The Royal Society of Göttingen, which is engaged in the publication of a new edition of Gauss's complete works, learned some time ago that there were in the New York Public Library several manuscripts, supposed to have been written by Gauss, which had never been published. The Secretary of that Society wrote to Professor Cole, and asked him to arrange, if possible, to have the manuscripts sent to Göttingen for examination. Professor Cole succeeded in having this done, but the result was somewhat disappointing. Only two of the manuscripts proved to be authentic, and both of them had already been published. The remaining manuscripts appear to have been the work of

someone who was associated with Gauss, probably as an assistant or an advanced student.

The number of students taking graduate courses in mathematics this year shows a gratifying increase over the number of last year. There are now eighteen such students, of whom eight are making mathematics their major subject. Last year there were but twelve, of whom five made mathematics their major.

This department has in the past been unable to afford its graduate students the advantages of a departmental reading room or study, although some of the other departments at Columbia have admirably equipped studies for the use of advanced students. It is expected, however, that within a few weeks one of the rooms in College Hall will be arranged for the use of the graduate students in mathematics. It is difficult to imagine any convenience which is more important for advanced students than a retreat where they can work over their lecture notes in the vacant hours that intervene between lectures, consult reference books used in connection with the courses and read the current numbers of the periodicals.

*Department of Physics.*—In the September number of the *American Journal of Science*, Professor Rood published a full account of his newly invented flicker-photometer, and in the October number of the same journal gave measurements of the color-vision of eleven persons who might be considered to have normal vision. Considerable differences were, however, observed among them. A quantitative study of three cases of red color-blindness was also given in this article.

At the August meeting of the American Association for the Advancement of Science, Professor Hallock read a paper on the "Compound Harmonic Vibration of a String." He is at present engaged in the construction of a new mercurial air-pump for obtaining high vacua, and also is designing a new self-recording thermometer, so arranged that the record is made at a considerable distance from the thermometer. During the past year he has much advanced his apparatus for the analysis of composite tones. Dr. Hallock has posted daily the weather record as obtained by the self-recording apparatus, presented to the University by President Low.

Mr. Parker has finished a study of the electromotive force de-

veloped by carborundum and zinc in a primary cell. During the month of August he took part in the first ascent of Mt. Dawson, and made barometric observations to determine the altitude of this peak, supposed to be the highest of the Selkirks.

In August Mr. Trowbridge published in *Science* a paper describing a number of experiments on the behavior of phosphorescent substances at liquid-air temperatures, showing the decline in phosphorescent activity of calcium sulphide at degrees of extreme cold, and giving also a list of the colors produced in certain organic materials, when phosphorescent at 190 degrees below zero, centigrade. During the summer Mr. Trowbridge was engaged in an investigation relating to the mechanism of bird-flight.

Dr. Tufts has continued his investigations upon the absorption of sound by materials pervious to air, and is at present engaged upon an experimental comparison of the accuracy of various phonometric methods. During the past year he has also made observations upon the electrical potential of the atmosphere a few meters from one of the laboratory windows.

Dr. Day is working to obtain an experimental proof of the mechanical action of a magnetic field on a dielectric carrying a displacement current.

Dr. White has been engaged upon the investigation of special methods of determining the index of refraction of small fragments of mineral substances, on experiments upon the formation of multiple images in the normal eye, and also has made examinations of samples from well-borings by optical methods.

Among the investigations carried on by the post-graduate students are the following: Mr. Bergen Davis is studying certain new phenomena first observed by himself in Kundt's tubes. Mr. A. C. Longden is working upon the production of constant high resistances by plating upon glass in high vacua. Mr. A. E. Lawrence is continuing his researches upon electrical oscillations, and is investigating more especially the kind of electrical disturbances made use of in wireless telegraphy.

A meeting for the discussion of original and other papers on physics is held each week, in which the officers and advanced students of the department take part.

O. N. R.

*Department of Zoölogy.*—Work in the department of zoölogy has opened with promise of an active and successful year, the rolls showing a very substantial increase in the number of graduate students. During the summer a large amount of field-work has been accomplished. From the Senff Zoölogical Expedition to Egypt valuable material has been received, comprising specimens of the remarkable fish *Polypterus* and of the electric fishes of the Nile, with other anatomical material. Professor Osborn, in company with Dr. W. D. Mathew, made a careful examination of the famous Dinosaur beds of central Wyoming, and returned with a large and valuable collection of rare fossils, including a very complete *Brontosaurus* skeleton. Professor Wilson pursued researches at Naples and at the biological station at Wood's Hole, Mass., collecting embryological and cytological material; and he also brought from Egypt zoölogical material, including many specimens of the unique gilled earthworm *Alma*, which presents an interesting special problem in evolution. Professor Dean, with Mr. W. K. Gregory, passed the summer on the Pacific coast at the Hopkins Marine Laboratory, and met with great success in securing full series of the much coveted embryos of the hag-fish *Bdellostoma* and of the shark-like *Chimara*. Both these forms, like *Polypterus*, are of high theoretical interest; and the results of an investigation of their embryological development will be awaited with much interest. Many valuable anatomical preparations of rare forms were also brought back for the teaching collection. Drs. Calkins, Strong, Crampton, McGregor and Paulmier, with several graduate students, passed most of the summer at Wood's Hole, engaged in teaching and research; two graduates worked at the Cold Spring Laboratory on Long Island; and one went on a zoölogical trip to Nova Scotia.

In addition to the field-work, many completed researches have advanced toward publication. Professor Osborn has continued work upon an extended treatise on the *American Fossil Mammals*; Professor Wilson has nearly completed a revised and much extended edition of his book on *The Cell*; Dr. Calkins' book on *The Protozoa*, to be published in the Columbia Biological Series, is nearly ready for the press. A memoir on the development of *Bdellostoma*, by Professor Dean, is now in course of

publication. Besides these works, a complete number of the *Journal of Morphology*, consisting of extended articles by students and members of the department, is about to appear.

The newly founded "Dyckman Fund for the Encouragement of Biological Research," due to the generosity of the late Mr. Isaac M. Dyckman, will prove of great assistance in the prosecution and publication of researches in the department. Special acknowledgment is due both to the founder of this fund and to Mr. Charles H. Senff, who has defrayed the expenses of two expeditions to Egypt. The department is indebted to Mrs. Henry D. Van Nostrand for the gift of a splendid collection of shells, brought together by the late Mr. Van Nostrand. This collection, embracing upwards of six thousand species, ranks with some of the best collections in the country, and it is to be regretted that lack of funds prevents at present its suitable storage and arrangement.

E. B. W.

#### FACULTY OF MEDICINE

*Department of Physiology.*—Professor Curtis has been appointed to deliver the Cartwright Lectures of the Alumni Association of the College of Physicians and Surgeons for 1900.

Professor Lee spent a considerable portion of the summer at the Marine Biological Laboratory, Woods Hole, Mass., in the completion of his work on the function of the organs of the lateral line in fishes, which was begun during a previous season. He is at present actively engaged in preparing for The Macmillan Company a revision of Huxley's well-known *Lessons in Elementary Physiology*.

Dr. Stewart devoted a part of the summer vacation to a research, with Dr. Allen Cleghorn, at the physiological laboratory of the Harvard Medical School, on the reaction time of the inhibition of a muscular contraction.

The degree of LL.D. was conferred upon Professor M. Allen Starr, M.D., by Princeton University at the commencement in June last.

## BARNARD COLLEGE

The registration this year is as follows:

<i>Graduate Students</i>		<i>The College</i>	
Faculty of Philosophy . . . .	39	Seniors . . . . .	39
Faculty of Political Science . .	19	Juniors . . . . .	40
Faculty of Pure Science . . . .	13	Sophomores . . . . .	37
Faculty of the College . . . .	5	Freshmen . . . . .	54
			<hr/>
			170
			<hr/>
<i>Special Students</i>			
Undergraduate Work . . . . .	29	Total . . . . .	310
In Music . . . . .	35		
	<hr/>		
	64		

Last year the enrollment of regular undergraduate students was: Seniors, 24; Juniors, 23; Sophomores, 36; Freshmen, 43; Total, 126. It will be noticed that the gain is not only in the Freshman class but in the higher classes as well, by transfer from other colleges or by examination for advanced standing. Ten students are candidates for a diploma from Teachers College.

Sociology 15 has this year been amplified to include observational work, through institutional and tenement house visiting, under the direction of Miss Clews (Ph.D., Columbia, '99). Each member of the class is required to report weekly visits to three workingmen's families resident in the thirteenth and fifteenth Assembly districts. Two families are visited by the student in the character of collector of the Hartley House Station of the Penny Provident Fund, and one family in the character of friendly visitor of the Charity Organization Society. The information which is secured during the course of these visits is classified in schedules which are based on Professor Gidding's *Elements of Sociology*.

The particular needs of the families which have already been visited have led the students to discussions of such subjects as methods of charity organization, aims of social settlements, child saving, the compulsory education law, the building and sanitary codes of the Departments of Building and Health, life and accident insurance, medical relief, the New York poor law, etc. A small library of official reports, periodicals and standard works upon these and kindred subjects is being collected in room 116, Barnard College. All members of the University

are welcome to the use of this collection, and of the bulletin board, upon which are posted notices of the current meetings, lectures, etc., of the more important reform and philanthropic agencies of New York.

E. J. P.

#### TEACHERS COLLEGE

The Dean's Report for the academic year ending June 30, 1899, presents some interesting items, which are here briefly summarized.

The following table, showing the enrollment of students, exclusive of extension classes, exhibits in detail the character of the courses of study which are being pursued, together with the number of students in each. The figures in brackets—in this table and the others below—for 1899-1900 are inserted for comparison; but they are not final, inasmuch as all data are not at hand at the time of this writing.

Candidates	ENROLLMENT			
	1896-97	1897-98	1898-99	[1899]
for Higher Diploma,	0	0	54	[70]
Secondary "	9	5	15	[19]
Elementary "	39	37	67	[97]
Kindergarten "	24	14	20	[24]
Fine Arts "	0	0	24	[26]
Domestic Art "	0	0	3	[ 9]
Domestic Science "	2	5	12	[21]
Manual Training "	9	11	18	[17]
	83	72	213	[283]
Special students—not candidates for a diploma	101	65	84	[47]
Students from other Departments of the University :				
Faculty of Philosophy	0	9	11	[11]
Faculty of Pure Science	0	0	1	[ 1]
Columbia College	0	0	4	[ 8]
Barnard College	11	23	22	[22]
Total	11	32	38	[42]
Total	195	169	335	[372]

It should be noted that candidates for the Higher Diploma must be college graduates, or mature students capable of doing



graduate work; that candidates for the Secondary Diploma must have completed a regular college course prior to receiving the diploma of Teachers College; and that many students enrolled in other courses have had considerable collegiate training. The following table gives the academic training of students who are candidates for one of the diplomas:

COMPARATIVE TABLE OF STUDENTS' ACADEMIC TRAINING

	1897-98	1898-99	[1899]
College Graduates	30	86	[ 93]
Students with Partial College Course	25	42	[ 46]
Normal School Graduates	6	43	[ 54]
Secondary School Graduates	47	94	[120]
Students with Irregular Training	61	70	[ 59]
Total . . . . .	169	335	[372]

In the above list, 58 colleges and universities and 21 state normal schools are represented. There are included such typical colleges and universities as Barnard, Columbia, Brown, Cornell, Harvard, Leland Stanford, Jr., Princeton, Rutgers, Smith, Chicago, Michigan, Colorado, Nebraska, Toronto, Vassar, Wellesley, Wesleyan, Wooster, Yale, thus bringing together from widely separated parts of the country advanced students, whose pedagogical ideas are likely to be as variant as the character of the institutions represented. The 43 normal school graduates represent 9 New York State Normal Schools, and normal schools of 9 other States, including Massachusetts, Alabama, Illinois and California. Presupposing the requisite academic training, the conditions could hardly be more favorable for an earnest and catholic study of educational problems.

The following table is especially interesting, as showing the fact that of the 213 regular students primarily registered in Teachers College, less than 20 per cent. were from New York City, while nearly 45 per cent. were from outside New York State.

GEOGRAPHICAL DISTRIBUTION OF STUDENTS, 1898-99

	['99.]		['99.]		['99.]
Alabama	3 [2]	Massachusetts	10 [9]	Pennsylvania	9 [15]
California	1 [1]	Michigan	5 [4]	So. Carolina	1 [1]
Colorado	3 [3]	Minnesota	1 [5]	Texas	1 [1]
Connecticut	11 [9]	Missouri	1 [1]	Vermont	4 [0]

Columbia [Dist.]	3 [2]	Nebraska	1 [1]	Virginia	2 [0]
Delaware	0 [1]	New Hampshire	0 [1]	W. Virginia	1 [2]
Georgia	2 [1]	New Jersey	37 [42]	New Mexico	0 [1]
Illinois	4 [3]	New York (ex-		Armenia	0 [1]
Indiana	1 [1]	clusive of New		Brazil	0 [1]
Iowa	3 [0]	York City)	96 [65]	Canada	4 [2]
Kansas	3 [1]	New York City	77 [113]	England	1 [1]
Kentucky	0 [1]	No. Carolina	1 [1]	India	1 [1]
Maine	1 [1]	No. Dakota	0 [1]	Turkey	3 [1]
Maryland	2 [0]	Ohio	4 [8]		

An extended table in the report displays the class registration for 1898-99, both by courses and departments, as well as by sex. Summarized, it gives the following interesting comparisons:

DEPARTMENT	MEN	WOMEN	TOTAL
Education	167	366	533
Fine Arts	29	272	301
Biology	3	108	111
Domestic Art	0	41	41
Domestic Science	0	43	43
English	11	112	123
Geography and Geology	12	72	84
Greek and Latin	5	12	17
History	17	112	129
Kindergarten	0	46	46
Manual Training	31	57	88
Mathematics	3	28	31
Music	1	61	62
Physical Science	4	74	78
Total . . . . .	283	1403	1776

The report includes a description of the building about to be erected for the Horace Mann School between 120th and 121st streets. The cost will be over \$350,000, exclusive of the land, thus assuring a model building. Some years ago a gentleman interested in educational matters secured the lots, and has now given them to Teachers College for \$100,000—about two-thirds of their market value. Of this \$100,000, \$25,000 is already pledged on condition that the balance be secured. Mr. John D. Rockefeller, after carefully investigating the needs and the function of the College, became convinced, to quote the words of the letter announcing the gift, "of the value of Teachers College and of the fact that it does not conflict with the normal

schools of the city, but rather does a higher, broader work which cannot be done under city supervision, and which is far-reaching rather than local in its results. The fact of the closer connection between Teachers College and Columbia University, which is constantly growing, seems . . . to be a step of progress, and to give added strength and efficiency to the College. In view of these facts he will be glad to give fifty thousand dollars (\$50,000) toward the seventy-five thousand (\$75,000) yet to be raised for the purchase of land on which the Horace Mann School is to be built, provided the remaining twenty-five thousand (\$25,000) is raised before the first of January, 1900."

In the new experimental school, temporarily housed at 555 West 129th Street, near Broadway, a kindergarten of forty children has already been organized, under the charge of Miss Eva S. Blake; and a first grade of eighteen children under the management of Miss Amy Schüssler, who formerly had charge of the first grade in the Horace Mann School. Instruction in sewing and cooking is given under the direction of the department of domestic science and art of the College. It is expected that the actual instruction in these classes will be given by students-in-training, under the direction of the critic teachers and in connection with the regular College classes in the theory and practice of teaching.

A unique feature of the report is the discussion of the possibilities and the requirements of an educational museum, designed to illustrate various educational systems, class work and general educational problems and methods. Teachers College has definitely taken up this museum problem, and a good beginning has been made toward making available in all departments the photographs, lantern slides and other illustrative material scattered about the buildings.

Teachers College has established a serial publication—*Teachers College Record*—to deal with the practical problems of elementary and secondary education and the professional training of teachers. The purpose of the series is to give the faculty and students of the College a comprehensive view of the actual workings of the school of observation and practice, to provide graduates of the College with a means of prolonging their professional studies, and to acquaint the public generally with

the theory and practice of teaching adopted in Teachers College and the Horace Mann School. The *Record* will consist of a series of studies, each of which will be devoted to a specific problem in the work of the kindergarten, elementary school, high school or some department of the College. The plan is to exhibit the ideals and methods, the merits and defects of one school, in the honest effort directly to promote its own best interests and indirectly to be of service to all other schools engaged in a similar task. The studies in the *Record* will be printed and numbered separately, but for convenience of publication they will be bound together and issued bi-monthly during the academic year. The first number will be ready January 1, 1900. The subscription price is one dollar per annum. For further information apply to the Secretary.

W. H. N.

#### NOTES

The address of Dr. John G. Curtis, in presenting Dr. Edward Livingston Trudeau for the degree of Master of Science at the commencement in June last, was as follows:

*Mr. President:*

"In our northern forest there stands a group of buildings which have been rising steadily for fifteen years, thanks to many benefactors. They are mostly cottages, but all are devised to save working people—at the least possible cost to them, and sometimes at no cost at all—from incipient consumption. The patients of this, the first sanitarium of its kind in America, owe their rescue to one man, a physician, himself saved from death by timely escape to the hills, who has remained there ever since to save others, and who gives his services, without fee or reward, to the sanitarium which he himself created.

"But this is far from all. During her twenty-three centuries of conscious life Medicine has been striving empirically to cure, or to prevent, consumption. It was but yesterday that the discovery of its cause, a microscopic living plant, changed at a stroke this secular task of Medicine from one of empiricism to one of science. Therefore, soon after the germ of tuberculosis had been discovered, the physician who created the sanitarium I speak of created near it, with the aid of a generous benefactor, a

laboratory where the natural life of the germ is studied experimentally, and whence has flowed important knowledge as to how it is quickened, and how it can be destroyed, and with it extirpated one of the most fatal of diseases.

"But when this victory shall have been won, it will not be owing to Medicine alone; it will be also because natural philosophers have studied the properties of lenses, because botanists have studied what floats in the air and what gathers in the dust. The career I speak of nobly illustrates the eternal unity of science, whether her ardent flame be applied to devour infection or be held aloft, unwavering and pure, to light mankind to wider knowledge.

"Our University has decreed to crown the career of which I have spoken with the honorary degree of Master of Science. I present to you Edward Livingston Trudeau, Doctor of Medicine."

Professor Charles F. Chandler has been unanimously elected to the presidency of the Society of Chemical Industry—an international organization, with headquarters at London and 3,300 members in all parts of the world, the names of whose presidents constitute a veritable roll of honor. This recognition of Professor Chandler's services to science and to the public offers the opportunity to present the outline of a remarkable career.

Professor Chandler received his university training at Harvard, Göttingen, and Berlin, studying chemistry under Professors Horsford, Wöhler and Rose; physics under Professors Weber, Dove and Magnus; mineralogy under Cooke, von Waltershausen and Rose; and geology under Professor Agassiz. He has received the degree of Ph.D. from Göttingen, those of M.D. from the University of New York and LL.D. from Union College.

Since his return to this country in 1857, he has been almost continuously engaged in teaching, having held professorships at Union, Columbia, the College of Pharmacy and the College of Physicians and Surgeons. In 1864, he took a leading part in the founding of the School of Mines and from that time until he resigned in 1897 was its executive officer. Besides contributing to various journals, Professor Chandler has been an editor of the *American Chemist* and of *Johnson's Encyclopædia*. He has also served on numerous city, state and national boards and com-

missions, his work as president for eleven years of the New York Board of Health being especially noteworthy. Various quasi-public organizations—such as the State Charities Aid Association—have likewise profited by his energy and wisdom. To name the scientific societies of which he is now or has been a member or an officer would be a lengthy task: it suffices to mention the National Academy of Sciences; the American, English, German and French Chemical Societies; the English and German Societies of Chemical Industry and the American Institutes of Mining Engineering and Electrical Engineering.

For the mountain climber, few, if any, mountain ranges offer greater attraction than those of western Canada. Their beauty, with their rugged cliffs, great glaciers and brilliant snowfields, and the difficulties which they offer to the climber have attracted numerous foreigners, as well as Americans, but many of the summits have never yet been trodden by human beings. In this class was Mt. Dawson, the highest peak of the Selkirk Range of British Columbia, until its summit was reached last summer by two members of the Appalachian Mountain Club—Professor C. E. Fay, of Tufts College, and H. C. Parker, of Columbia.

Starting soon after midnight, the party of four persons (those just mentioned and two guides) met the usual difficulties of mountain climbing—glaciers, rock walls and snowfields—but succeeded in reaching the summit in good condition at 10:45 a. m. Barometrical observations showed an altitude of 10,800 feet. [From a detailed account in the New York *Evening Post* of August 22, 1899.]

Dr. Marcus Benjamin (Mines, '78), Vice-President\* of the Section on Social and Economic Science of the American Association for the Advancement of Science, in August last delivered an address, at the meeting held in Columbus, Ohio, on "The Early Presidents of the American Association." Among these were President Barnard and Professor Newberry, of whom he said (in part):

"In 1837 [Barnard] was invited to the University of Alabama, where he filled, first the chair of mathematics and natural philosophy, and later that of chemistry and natural history, remaining in Tuscaloosa until 1854. It was said of him, at that time, that he

\*The unfortunate death of President Orton, on October 15th, now makes Dr. Benjamin the acting President of the Association.

was "the best at whatever he attempted to do; he could turn the best sonnet, write the best love story, take the best daguerreotype picture, charm the most women, catch the most trout, and calculate the most undoubted almanac." As further evidence of his versatility, it may be mentioned that he edited two newspapers of opposite political opinions. It was also while in Tuscaloosa that he delivered his famous Fourth of July oration, beginning "No just cause for a dissolution of the Union in anything that has hitherto happened; but the Union is the only security for Southern rights." While it enraged his colleagues greatly, "this oration, read in every part of the State, as it was within a week, presented the northern cause in an entirely new light in Alabama, and checked the rising spirit of rebellion for many years."

"In 1854 he accepted a call to the chair of mathematics, natural philosophy and civil engineering in the University of Mississippi, of which institution he became president in 1856 and chancellor in 1858. When the civil war closed the doors of that university, he declined office under the Confederate government and came north. For a time he was connected with the United States Naval Observatory, and also with the United States Coast Survey; but the vacant chair of physics in Columbia College attracted him, and the trustees of that institution were wise in taking advantage of their opportunity to offer him the higher honor of the presidency. . . .

"Newberry, who for so long was closely associated with him, . . . said of the growth of Columbia during his presidency:

"He made there a noble and an honorable record. Every one of the steps of progress was either conceived or earnestly advocated by him and owed its achievement to his support. He was not only a participant, but a leader in every forward movement. . . .

"Newberry was called to the charge of the department of geology in the then recently organized School of Mines of Columbia College, and, with a faith in its ultimate success that never faltered, he accepted the trust. With the same genius for organization that was shown by his development of the work of the Sanitary Commission, he began the planning of courses of study. Alone he gave instruction in botany, zoölogy, geology, lithology, paleontology and economic geology,



and a quarter of a century later left to the world as his best and greatest memorial a magnificently equipped department of the special branches taught by him, not excelled by any similar educational institution in this country. Nor was this all. He created a museum of over 100,000 specimens, principally collected by himself, which served to illustrate his lectures on geology and economic geology. It contains "the best representatives of the mineral resources of the United States to be found anywhere, as well as many unique and remarkable fossils."

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Mr. Henry C. Bowen, formerly connected with the School of Mines of Columbia University, died on Wednesday, July 26, 1899, at the home of his brother, Mr. F. B. Bowen, North Fenton, Broome County, N. Y., in the fifty-fifth year of his age, after a lingering illness. Mr. Bowen studied chemistry in Germany for two years, under Professors Bunsen and Kirckhoff at Heidelberg, and Professors Hofmann and Helmholtz at the University of Berlin. In 1877 he was appointed assistant in qualitative analysis at the School of Mines, Columbia University, a position which he held until 1885, when his title was changed to fellow in chemistry, with the same duties. In 1890 he was appointed assistant in quantitative analysis, and in 1891 was promoted to tutor in quantitative analysis, a position which he held until June, 1897. Mr. Bowen was an accomplished analyst and was also interested in industrial chemistry, having acted as chemist to the Municipal Gas Company and to the Barber Asphalt Paving Company.

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#### STUDENT LIFE

The societies formed in the Departments of Literature, of French and of German have developed into a most important factor in the social life of the undergraduates.—**Kings Crown** now has in the basement of Fayerweather Hall a comfortable library stocked with some five hundred volumes, presented by the members and friends of the society. The schedule of prospective guests of honor at the social meetings for the season includes John Borroughs, Henry Van Dyke, S. Weir Mitchell, Paul Leicester Ford and Hamilton Wright Mabie. Melville H.

Cane, 1900, has been elected president for the year, and H. S. Harrison, 1900, secretary.—The **Deutscher Verein** has opened what promises to be a very successful season. The series of social meetings has been resumed. The Verein intends to give a German play in the course of the year, for which the coöperation of Mr. Heinrichs, of the Irving Place Theater, has been secured. An apartment on the top floor of West Hall has been appropriately fitted up as a reading room for the association.—The **French Society** meets regularly every second Tuesday. The meetings of the society are distinctly social, and many prominent men are to be entertained during the year. Encouraged by the success of *La Bataille de Dames*, which was given last April, the society, in conjunction with its sister organization at Barnard, will produce another French play. The officers for the year are: President, L. D. Newborg, 1900; Vice-President, E. J. Walter, 1900; Secretary, Ramsay Hoguet, 1901; Treasurer, A. Forsch, 1901.

The class elections resulted as follows: 1900, College, H. S. Giddings, and Science, Hugh Kafka, Jr.; 1901, W. A. BenseL and R. S. Woodward, Jr.; 1902, C. W. Bartow and S. F. Farish; 1903, Victor Earle and A. Berrien.—The **Junior Ball Committee** has been appointed, and for officers have chosen A. N. Lawrence, Chairman; B. M. Falconer, Manager; and R. S. Woodward, Secretary. The committee had formed an elaborate plan for a three-days' "Prom," instead of the traditional ball; but this innovation was abandoned, on the recommendation of President Low.—The Juniors also plan to publish their *Columbian* by December 17. Many novel features are to be added to the volume this year and there are to be more illustrations and photographs than usual. A number of campus-scenes will prove of particular interest. The book will contain about fifty pages more than the 1900 *Columbian*. The Sophomores will hold their annual show at Carnegie Lyceum, commencing January 4. The play will be *The Gay Mr. Vane*.

*Spectator* continues successfully as a semi-weekly. Changes in the staff have resulted in the election of Mr. Burdick, 1900, as editor-in-chief, in place of Mr. Fiske, resigned, and the election of Mr. Quinn, 1901, as Business Manager. Mr. Kellock, 1900, has been elected to the managing board.—The *Lit-*

*erary Monthly* has made no changes in the personnel of its staff.—The *Morningside* has reorganized under a triumvirate governing board, consisting of Messrs. H. G. Alsberg, John Erskine and Harold Kellock, all of 1900. Mr. E. B. Mitchell, 1901, and Miss J. B. Gillespie, Barnard, have been elected to the associate board.

The **Y. M. C. A.**, besides its regular Thursday afternoon meetings and occasional evening receptions, has instituted a **Bible-Study Course** which is held every Friday, under the leadership of Mr. H. W. Georgi. Mr. H. B. Scharman, international secretary of the Y. M. C. A., is the author of the course.—The **Debating Union** was unable to make arrangements for a debate with the University of Pennsylvania, but a challenge has been sent to the University of Chicago, from which a favorable answer is expected.—The **Freshman Debating Society** has been abolished and Freshmen are now eligible for membership in the two societies.—The **Glee, Mandolin and Banjo Clubs** will go on their annual tour during the Christmas holidays. These clubs gained a high reputation last year, and it is hoped that the trip will be a financial success.—The **University Orchestra**, together with the Chorus, will give a concert in the course of the year. Both of these organizations are under the charge of Mr. Gustav Heinrichs.—The usual 'Varsity show will be produced under the auspices of the **Musical Society** during the winter. Several plays, written by Columbia students, were submitted to the committee, which chose *The Governor's Vrouw*, by John Erskine, H. S. Harrison and M. H. Cane, all seniors in the College. The officers of the Musical Society are, President, H. S. Harrington, 1902; Vice-president, J. W. Mackay, 1900; Secretary and Treasurer, R. Maclay, 1901; Manager 'Varsity Show, W. R. Quinn, 1901.—The Chess Club has elected the following officers, K. G. Falk, 1901, President; H. Boehm, 1901, Vice-president; and F. H. Sewall, 1902, Secretary. An **International Universities' Chess Trophy**, valued at \$1,200, has been donated by Mr. Isaac L. Rice and is to be competed for by Oxford and Cambridge, and Princeton, Columbia, Harvard and Yale. This should rouse interest in collegiate chess. A Columbia team will play in the coming intercollegiate chess tournament.

## ATHLETICS RECORD

During the fall steps toward the long-desired reform of the athletic organization at Columbia have been taken. For years athletics had been in the hands of a number of associations, each governing a separate branch of sport, and all loosely bound together in an organization called the Union. This proved to be a powerless body, under which centralization of athletic interests was impossible. The practically independent organizations were ever warring against one another, and were maintaining full quotas of superfluous executive officers. Small wonder, indeed, that Columbia was slowly being relegated to the humiliating position of a minor factor on water, track and field. But the new system of organization bids fair to remedy the former defects. The central association will be composed of the managers, assistant managers and captains of the football, baseball, track, cycle and lacrosse teams and of the crew, from whom the president and the secretary will be elected. The plan provides for a general treasury, a salaried treasurer (graduate) and an advisory board of three graduates. At meetings held in November, a constitution embodying these points was adopted, but no officers have yet been elected. As things now stand, each separate athletic organization will have to decide whether it will enter the new association or not.

## FOOTBALL

Seldom, if ever, before in Columbia's history has an athletic team called form such manifestations of enthusiasm as this year's football team. From a raw squad the eleven advanced, under the excellent coaching of Mr. G. F. Sanford, to a team that is placed among the best in the country. This success was largely due to the splendid management of Mr. W. E. Mitchell, who, with Mr. Simons (then captain of the team) worked untiringly, in the early part of the season, to bring out all the available material in the University. At the beginning of the season Simons voluntarily resigned the captaincy of the team to R. P. Wilson, who, he unselfishly acknowledged, was "the best man for the position." During the year the team lost, from injuries, Simons (fullback) and Wilson (quarter). The following is the line-up in most of the larger games:

Position	Name	Height	Age	Weight
Left end . . . . .	Neidlinger . . . . .	5:11	20	157
Left tackle . . . . .	Smythe . . . . .	5:11	19	175
Left guard . . . . .	Longacre . . . . .	6:	23	185
Center . . . . .	Wright . . . . .	5:10	23	225
Right guard . . . . .	Miller . . . . .	6:3	20	186
Right tackle . . . . .	Knapp . . . . .	6:	19	180
Right end . . . . .	Slocovitch . . . . .	5:9	21	171
Quarterback . . . . .	Wilson (captain) . . . . .	5:7	22	150
	Putnam . . . . .	5:8½	23	150
Left half-back . . . . .	Weekes . . . . .	5:10	19	170
Right half-back . . . . .	Morley . . . . .	5:10	23	165
Fullback . . . . .	Larendon . . . . .	5:6	20	160

Before the opening of College a football squad of over thirty men spent a fortnight at Margretville, in the Catskills, where preliminary practice was indulged in. Here they gave indication of their mettle by

defeating the strong Walton eleven, in a practice game, 30-6. The management was fortunate—from the financial point of view, at least—in securing Manhattan Field for the seven home games. Considering that this is the first time Columbia has been represented on the gridiron in many years, the record of the team is certainly creditable.

#### RECORD OF GAMES PLAYED

Columbia, 26	Rutgers, 0	October 3
Columbia, 21	Union, 0	" 7
Columbia, 0	Princeton, 11	" 14
Columbia, 40	N.Y. U., 0	Oct. 18
Columbia, 18	Amherst, 0	" 21
Columbia, 5	Yale, 0	" 26
Columbia, 46	Stevens, 0	Nov. 1
Columbia, 0	Cornell, 29	" 7
Columbia, 16	West Point, 0	" 11
Columbia, 22	Dartmouth, 0	" 18
Columbia, 0	Carlisle Indians, 45	" 30

Games won 8, lost 3. Points scored, Columbia 195, opponents 85.

We must not, in passing, fail to note some charges made against the team, that it was not strictly amateur. The standing of four men was questioned; but the Faculty Committee on Athletics, after a thorough investigation of these cases, found that the accusations made were wholly groundless and founded, indeed, in ignorance of the facts. The manifest absurdity of most of the charges would have rendered a reply unnecessary, had not the criticism come from a supposedly reputable source. That we have any "ringers," men sought out solely to play football, is totally untrue. As this is our first year at football, we have, it is true, found it expedient—with the consent of opposing teams—to waive the rule of one-year's residence; but hereafter even so much ground for criticism will be lacking. No man not strictly a bona fide student in every sense of the word will be allowed to represent Columbia in athletics. The attitude taken by President Low in his annual message this year is the attitude of all true Columbia sportsmen.

#### ROWING

The fall regatta was rowed on October 27. In the Freshman race—a very exciting contest—the Science boat beat the College by about a yard. In the Sophomore-Junior race, 1902 won by three-quarters of a length.

Undoubtedly there has been a considerable falling-off in interest in a Varsity crew the last year or so, as was strikingly shown by the small response to the call for candidates for the crew last year. This state of affairs is not so much attributable to successive defeats as to the attitude of the Rowing Association toward the undergraduates. From the student the affairs of the Rowing Association are carefully concealed. Though it demands and receives from the undergraduate pocket more than all other athletic organizations combined, yet, for some inexplicable reason, it is the only athletic organization that does not publish a report of its finances. Until the managements of our crews, then, assume a more confidential attitude toward the students who support them, our eights, in

spite of Columbia's great rowing traditions, will suffer more and more for the want of the full, enthusiastic interest and support of the undergraduates, which they would otherwise receive.

#### GENERAL NOTES

John T. Mack has been secured as trainer for the Track Team. The Fall Games, consisting of thirteen track and field events and three cycle races, were held at Berkeley Oval on October 24th. A team of six, under Captain J. B. Smith, Jr., finished fourth in the Intercollegiate Cross Country Run on November 18th. Under the active management of Mr. H. W. Shoemaker, the debt has been paid off.—The prospects for a good Gymnastic Team are bright, as almost all the old men are back and there is much promising material in the Freshman Class. Trial meets with Yale and Harvard during the winter will probably be arranged.—The Lacrosse Team will play a regular series of about twelve games in the spring, including two trips.—All the old men, except two, are back for the Cycle Team, and Captain Allan announces that as many new men again will come out this year.—As yet nothing definite can be ascertained of the prospects for Base Ball. Though many of the old players have left, there is much excellent material in the University. J. L. Kebler, 1900, Science, will captain the team; H. D. Bulkley, 1901, is manager.—The Golf Team was defeated by the strong Harvard aggregation in the Intercollegiate Tournament on October 24th. In the qualifying round for the individual championship, J. A. Edwards, 1900, came within two strokes of lowering the record for the course.—The fall Tennis Tournament, held October 16th on the club courts, was distinguished by the largest entry-list in years. E. W. Cushing, 1901, Law, won the singles, and R. B. Cushing, 1902, Law, and E. W. Cushing carried off the honors in the doubles. On October 21st, a team of six was beaten by Princeton on the home courts of the latter.

HAROLD KELLOCK

### THE ALUMNI

#### NEWS OF THE COLLEGE CLASSES

[In this department it is intended to publish items of current interest concerning members of all classes of the College. So far as possible, the news for each class will be presented at regular intervals—as often, at least, as once a year. In order that this plan may be carried out effectually—with the result, it is hoped, of preserving college friendships and maintaining loyalty to the College—*graduates are cordially invited to send to the EDITORS news items about members of their own or other classes.*

1842

Hon. Abram S. Hewitt is Chairman of the Board of Trustees of Barnard College.



1846

Rev. Beverly R. Betts, of Jamaica, L. I., died May 21, 1899.—Dr. E. M. Kellogg (115 E. 37th St.) has been treasurer of the American Institute of Homeopathy since 1866, and has been actively connected with many other medical societies.

1850

Frederic R. Condert, J.U.D. (Columbia, 1887), has rendered conspicuous public service as government director (1885-88) and government receiver (1892-98) of the Union Pacific R. R., as counsel for the United States before the Behring Sea Commission, at Paris (1893-5), and as a member of the Venezuela Boundary Commission, (1896-8).—Rev. J. S. B. Hodges, S.T.D. (General Theological Seminary), has been rector of St. Paul's, Baltimore, since 1870.—W. R. T. Jones, commenting on the conditions at Columbia during his undergraduate career, writes:—"All athletic sports were discouraged, whether on the college green or elsewhere, and students were lectured for taking part in them. There was no cane rushing or hazing, nor were there photographic establishments to excite by their pictures the ambition of football players. The staff of professors numbered five, and they had to give instruction in all the branches."—Rev. E. M. Rodman has been rector of Grace Church, Plainfield, N. J., for twenty-nine years.—Rt. Rev. G. F. Seymour has been, since 1878, bishop of Springfield, Ill.

1854

H. M. Congdon, is an architect, with office at 18 Broadway.—Rev. H. L. Jones, S.T.D. (Columbia, 1893), is rector of St. Stephens, Wilkes-Barre, Pa.

1862

*Secretary:* G. A. Lawrence, 755 Water St.

The Secretary writes: "Your communication received. At first I was tempted simply to state 'no report,' as I have been able to glean so little. I was requested two years ago to trace out the surviving members of the class of 1862 of Columbia College. As there had been no inter-communication maintained for thirty-five years, it seemed an ungrateful task. The survivors were scattered from Maine to California, one member



being in Europe permanently. I have succeeded in communicating directly with most of them, and indirectly with the balance.

"The class matriculated with sixty-five members; of these forty-three graduated, of whom fourteen took part in the civil war. At the present time, there are living twenty-four members, of whom three are connected with churches, seven are employed in learned professions, nine are following mercantile pursuits, and the balance (five) are simply taking care of their properties, having retired from any more active employment. From the letters received, I cannot find anything particularly brilliant or striking to record, although several of the members have made their marks in a quiet way, holding advanced positions as bishop, judge and general; some are well known from their writings and some in the medical world. It is difficult to gather the threads, scattered through so long a period."

1866

*Secretary:*

Rev. J. M. Bruce has been, since 1896, pastor of Bethany Baptist Church of Yonkers, and is a trustee of Vassar College and of the Rochester Theological Seminary.

1874

*Secretary:* F. D. Shaw, 120 Broadway.

Spencer Aldrich (LL.B., '76) is practicing law at 29 Broadway.—W. S. Allerton (LL.B., '77) has law offices at 15 Broad St.—F. W. Hinrichs (LL.B., '75) has been actively engaged in political reform work since 1894, and has taken part in many current movements for social betterment, as President of the Department of Law in the Brooklyn Institute, vice-president of the National Civic Club of Brooklyn, vice-president of the Legal Aid Society, etc.—George Kennedy has been professor in Greek in Geneva College, Beaver Falls, Pa., since 1882.

1878

*Secretary:* E. W. Hopkins, 235 Bishop St., New Haven, Ct.

F. S. Bangs (LL.B., '80), the president of the class, is a special partner in the banking house of Kingsley & Mahon, at 40 Wall street.—J. A. Booth (M.D., '82) is consulting physician to the

French Hospital and to the New York Throat and Nose Hospital.—C. H. Crowe is president of the Board of Trade of East Stroudsburg, Pa.—C. F. Hoffman was engaged in the real estate business from 1881 until he retired in 1898.—F. W. Hollis (LL.B., '80; D.C.L., Leipzig, '98) was Secretary to the United States delegation to the Peace Conference at the Hague.—Charles DeHarr Brower (LL.B., '80), the class treasurer, is practicing law at No. 10 Wall street.—James W. Pryor (LL.B., '81) is secretary of the City Club.

1882

*Secretary:* E. R. Greene, 15 Broad St.

Drayton Burrill has been a member of the New York Stock Exchange since 1893.—W. K. Otis (M.D., '85) is consulting surgeon to the City Hospital and attending surgeon at St. Mark's Hospital.—H. deB. Parsons (M.E., Stevens, '84) is professor of steam engineering at Rensselaer Polytechnic Institute and a member of the New York State Commission on voting machines.—J. C. Spencer (M.D., '85) is professor of pathology and histology in the Medical Department of the University of California and bacteriologist to the San Francisco Board of Health.

1886.

*Secretary:* S. T. Gilford, 473 Lexington Ave.

A. L. Clark (LL.B., '88) is giving special attention to the law of municipal securities and of corporations, public and private.—Ruford Franklin (LL.B., '88) is a member of the city council of Summit, N. J.—P. H. Fridenberg (M.D., Strassburg, '91) is assistant surgeon of the New York Eye and Ear Infirmary, visiting ophthalmic surgeon at Randall's Island, etc.—T. C. Mitchell is instructor in English at the New York Boys' High School.—M. H. Turk (Ph.D., Leipzig), after studying for three years at Strassburg, Berlin and Leipzig, was called to Hobart College, Geneva, N. Y., where he is Horace White Professor of Rhetoric and English Language and Literature.

1890

*Secretary:* C. L. Livingston, 902 Union St., Brooklyn.

J. S. Fiske entered the firm of J. M. Ceballos & Co, on

January 1, 1899. He enlisted for the Spanish war, serving in the Puerto Rico campaign.—F. P. Graves (LL.D.), after serving as professor of classical philology at Tufts College from 1891 to 1896, was then elected president of the State University of Wyoming and two years later became president of the University of Washington.—T. B. Penfield is editor and publisher of the *Delta Upsilon Quarterly*.—C. T. B. Rowe (LL.B., New York Law School, '95) was chief yeoman on U. S. S. *Restless* from July 9 to September 1, 1898. He is now practising law at 15 Wall St.—J. P. Seward (M.D., New York Homeopathic Medical College) is professor of hygiene and dietetics at the New York Medical College for women.

1894

*Secretary:* J. F. Berry, 172 West 95th St.

J. P. Benkard served in the Spanish War as captain of the 12th N. Y. Volunteers.—J. F. Berry is teaching mathematics in the Boys' High School of Manhattan.—Spencer Carleton (M.D., '98) is pathologist to the Metropolitan Hospital.—S. I. Franz (Ph.D., '99) is assistant in physiology at the Harvard Medical School.—P. M. Hildreth died in October, 1898.—Shepherd Knapp, Jr. (B.D. Yale, '97), is pastor of the 1st Congregation Church at Southington, Conn.—Medwin Leale (M.D., '96) was, in the Spanish War, surgeon-in-charge of the N. Y. Volunteer Cavalry at Camp Black, at Camp Alger, on the transports to and from Puerto Rico, and was also in charge of the U. S. Cavalry at Ponce.—W. W. Phelan (A.M., '96) is proprietor of the National Capital University School at Washington, D. C.—M. S. Roth died May 9, 1899.

1898

*Secretary:* C. H. Edwards, Murray Hill Hotel.

D. M. Ferry is treasurer of the National Pin Co.—E. T. Iglehart is acting as pastor of the Methodist Episcopal Church at Washingtonville, New York.—Earnest Iselin is still on an extended trip around the world, for which he left with several young men last August.—J. F. B. Mitchell served as 2d Lieut. in the 12th U. S. Regulars in the Philippines until he was taken ill with the typhoid fever, and is now at home in Flushing, L. I., on sick leave.—R. K. Morse is an assistant statistician of the

Equitable Life Assurance Society.—J. S. Schlusel served as ordinary seaman in the U. S. Navy during the Spanish War. —Franklin Zeiger is University Fellow in Philosophy for 1899-1900.

#### ALUMNI NOTES

Among recent subscriptions to the Memorial Hall Fund was one in the form of a United States Army paymaster's check. The contributor, Mr. O. K. Hand, Mines '83, is now a private in the First Colorado Volunteers, and he has apparently given to the fund his pay.

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Hamilton Young Castner, one of Columbia's most distinguished alumni, died on October 11th, at Saranac Lake, N. Y. Mr. Castner entered the School of Mines in 1875 and devoted three years to the study of chemistry, leaving the school in 1878 to enter upon his professional work as an industrial chemist. He developed at once a very original mind and was extremely successful in his inventions of chemical processes. His death, while still a comparatively young man, will be a great loss to industrial chemistry and will be deeply regretted by a large number of warm friends on both sides of the Atlantic.

Mr. Castner's first important invention was that of a new chemical method for the preparation of metallic sodium. This metal had been made in moderate quantities, through the decomposition of carbonate of soda by means of carbon, and sold at about two dollars a pound. It was used in the manufacture of aluminium, which, when made by this process, was sold for ten dollars a pound; and there was hardly any other use to which sodium could be put, on account of the great cost of manufacturing it. Mr. Castner invented a new process, employing caustic soda instead of carbonate of soda, and carbide of iron instead of carbon alone as a reducing agent. This change of materials made it possible to manufacture sodium on an enormous scale, greatly reducing the price and making it possible, by its use, to sell aluminium at about five dollars a pound. As a result, Mr. Castner and his associates were able to capture all the business of the manufacture of metallic sodium and aluminium. Subsequently, Mr. Castner invented a new process for

manufacture of sodium, by which he produced the metal at a much lower cost, decomposing fused caustic soda by electricity. Works were established near Birmingham in England, at Neuhausen at the Falls of the Rhine, at Niagara Falls, and at one or two other points; and the cheapness of the sodium made it possible to employ it for a variety of purposes, according to processes invented by Mr. Castner, such as the manufacture of peroxide of sodium for bleaching purposes, and the manufacture of an extremely pure, double cyanide of potassium and sodium for use in the cyanide process of gold extraction, etc.

Mr. Castner's great invention was his process for electrolyzing a solution of common salt, for the manufacture of caustic soda and chlorine. Although hundreds of processes had been invented and patented from time to time for accomplishing this result, no one of them compared with Castner's in simplicity and completeness. Works are now in full operation at Niagara Falls, in England and at several places on the Continent.

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## SUMMARIES OF UNIVERSITY LEGISLATION

### THE TRUSTEES. OCTOBER MEETING

The President announced the death of Mr. Cornelius Vanderbilt.

A vote of thanks was tendered to Mr. and Mrs. S. P. Avery for the addition of \$5,000 to the endowment fund of the Avery Architectural Library; also a vote of thanks to Rear Admiral Melville, Messrs. C. W. Hunt, John Fritz, Stevenson Taylor, Andrew Fletcher, Edward Coykendall, H. S. Haines and friends, and F. A. Schermerhorn, for their gift of \$2,000 to complete the equipment for scientific purposes of the locomotive "Columbia"; also to Mr. F. G. Waller, engineer for the Alcohol and Yeast Manufacturing Co., of Delft, Holland, for a gift to the Department of Mechanical Engineering.

The sum of \$500, for the purpose of enabling the University to subscribe \$100 annually for five years to the support of a new journal, to be known as *The Transactions of the American Mathematical Society*, was received and acknowledged.

The President reported the resignation of Mr. Darling, and it was

*Resolved:* That the resignation of Mr. Edward A. Darling as superintendent of buildings and grounds, be accepted from and after October 1, 1899, and that the President be requested to express to Mr. Darling the appreciation of the Trustees of the great value of his services to the University and their best wishes for his success in his new enterprise.

Mr. Frederick A. Goetze was appointed superintendent of buildings and grounds, to succeed Mr. Darling.

The Committee on Finance submitted the report of the Treasurer for the fiscal year ending June 30, 1899.

The President reported the resignation of Professor Henry S. Munroe, as Dean of the Faculty of Applied Science, on account of ill health, and the election of Professor Frederick R. Hutton as Dean to fill the unexpired term.

The following appointments were confirmed:

Clark Wissler, assistant in psychology, from July 1, 1899, to succeed Shepherd Ivory Franz, A.B., resigned.—Henry Fisher, B.S., assistant in analytical chemistry, for one year from July 1, 1899, to succeed Frederick John Pope, Ph.D., resigned.—Leon Laizer Watters, B.S., assistant in chemistry, from July 1, 1899, for the same term.—Fitzhugh Townsend, A.B., E.E., tutor in electrical engineering, from October 1, 1899, for the remainder of the academic year.

#### THE TRUSTEES. NOVEMBER MEETING

The President presented his Annual Report for the year ending June 30, 1899, and it was ordered that the report be printed.

The Finance Committee reported that the Treasurer had received from President Low \$600,000 of the three per cent. bonds of the corporation, in full payment of the balance of his gift for the construction of the Library, including interest, and that the bonds had been cancelled.

The Finance Committee also reported, in regard to the Athletic Field at Williamsbridge, that the advisability of abandoning the property as an athletic field had been under consideration; that, in the opinion of the Committee, the determination of the question should depend upon the extent of the use made of the

grounds by the students for athletic purposes; and that, so far as could be ascertained, such use was very limited. The Committee recommended, however, that a further trial be made; that the stand and buildings be put in order; and that the grounds be placed in charge of Dr. Savage, Director of the Gymnasium. The recommendation was adopted.

The Committee on Buildings and Grounds reported that they had arranged for the installation, by the New York Telephone Co., of a new telephone system in the University, with a private branch exchange, which will furnish means of communication within the University and also with outside points.

Resolutions were adopted, designating as "South Hall" the building formerly occupied by the superintendent and approving the transfer to this building, from West Hall, of the department of music and of the various students' musical organizations, and of the janitor's family now occupying a portion of the basement of West Hall; and arranging to increase the size of the students' lunch room, to provide offices for the College newspapers in the basement, to devote all of the second floor to the departments of modern languages, to furnish better accommodations on the third floor for the departments of history and Oriental languages, and to assign space to the Graduate Club and other student organizations on the fourth floor. An appropriation of \$2,500 was made for the purpose of effecting necessary alterations.

A vote of thanks was tendered to Professor Egleston for a gift of books; also to the Duc de Loubat, the founder of the Loubat Library Fund, who was invited by the Trustees to sit for his portrait by Madrazo.

A resolution was adopted appointing for the Summer Session of the University for the year 1900 the following faculty:

Franklin T. Baker, A.M., Professor of English Language and Literature, Teachers College (English).—George R. Carpenter, A.B., Professor of Rhetoric and English Composition (Rhetoric and English Composition).—Richard E. Dodge, A.M., Professor of Geography, Teachers College (Geography).—William Hallock, Ph.D., Adjunct Professor of Physics (Physics).—A. V. Williams Jackson, Ph.D., Professor of the Indo-Iranian Languages (English).—John A. MacVannel, Ph.D., formerly



Assistant in Philosophy and Education, Columbia; Instructor in Philosophy and Education, Pratt Institute, Brooklyn, N. Y. (Philosophy and Education).—Frank M. McMurry, Ph.D., Professor of the Theory and Practice of Teaching, Teachers College (Theory and Practice of Teaching).—Paul Monroe, Ph.D., Adjunct Professor of the History of Education, Teachers College (History of Education).—Edward Thorndike, Ph.D., Instructor in Genetic Psychology, Teachers College (Psychology).

The following appointments for the current academic year were confirmed:

Philip G. Carleton, A.B., assistant in rhetoric and English composition; Henry E. Crampton, Ph.D., tutor in zoölogy; Albert Philip Baumann, E.M., assistant in metallurgy, in place of R. S. McCaffery, E.M., resigned; Charles Sidney Aylmar-Small, E.E., assistant in electrical engineering, in place of Fitzhugh Townsend, E.E., promoted; Leslie M. McHarg, C.E., assistant in civil engineering; Homer Munro Derr, A.B., and William W. Comstock, A.B., assistants in physics.

The Committee on Buildings and Grounds reported, as to the construction of an additional story of University Hall, that the outer walls could be carried up to a height of fifteen feet, six inches, in accordance with the original plan and designs, the interior space subdivided by temporary partitions, the whole covered with a temporary roof and fully equipped, for a sum not exceeding \$125,000, and offered the following resolutions, which were adopted:

*Resolved:* That the Committee on Buildings and Grounds be, and hereby are, authorized to take such steps as may seem to them necessary in order to secure, without cost to the Treasury, the sum of \$125,000, for the purpose of raising the walls of University Hall fifteen feet, six inches, and equipping the additional story thus obtained for current use.

*Resolved:* That the Committee on Buildings and Grounds have authority to ask the alumni who have contributed to the fund for the construction of Memorial Hall, to permit the use of this fund for the foregoing purpose, under a pledge that when the dining hall is completed, the Trustees provide an equivalent sum towards the erection of the dining hall, which shall then be known as Memorial Hall.

Students primarily registered in :	1895	1896	1897	1898	1899	Gain over 1898-9
<b>Columbia College</b> . . . . .	264	300	312	387	446	59
Freshman . . . . .	67	99	102	129	106	-23
Sophomore . . . . .	58	61	85	89	113	24
Junior . . . . .	52	49	55	86	89	3
Senior . . . . .	52	51	48	55	93	38
Specials . . . . .	35	40	22	28	45	17
<b>Barnard College*</b> . . . . .	114	154	177	202	223	21
Freshman . . . . .	20	21	38	43	54	11
Sophomore . . . . .	22	21	29	36	38	2
Junior . . . . .	21	22	23	23	39	16
Senior . . . . .	18	21	22	24	39	15
Specials . . . . .	33	69	65	76	53	-23
<b>Total undergraduates</b> . . . . .	378	454	489	589	669	80
<b>Faculty of Political Science</b> . . . . .	58	59	64	85	118	33
<b>Faculty of Philosophy</b> . . . . .	87	82	112	120	108	-12
<b>Faculty of Pure Science</b> . . . . .	32	36	44	57	53	-4
<b>Barnard College*</b> . . . . .	33	49	61	76	71	-5
<b>Non-professional graduate students †</b>	210	226	280	338	350	12
<b>Schools of Applied Science</b> . . . . .	351	355	404	431	464	33
First-year . . . . .	123	105	123	128	130	2
Second-year . . . . .	85	88	106	106	114	8
Third-year . . . . .	71	80	74	86	111	25
Fourth-year . . . . .	50	63	80	75	69	-6
Graduates † . . . . .	1	3	8	7	3	-4
Specials . . . . .	21	16	13	29	37	8
<b>Law School</b> . . . . .	305	340	368	342	377	35
First-year . . . . .	126	171	135	132	166	34
Second-year . . . . .	86	100	139	103	111	8
Third-year . . . . .	60	65	92	106	99	-7
Specials . . . . .	39	4	2	1	1	0
<b>Medical School</b> . . . . .	709	624	729	697	757	60
First-year . . . . .	241	276	222	197	226	29
Second-year . . . . .	161	158	190	162	159	-3
Third-year . . . . .	230	152	151	178	158	-20
Fourth-year . . . . .	0	0	143	140	173	33
Specials . . . . .	23	22	23	20	41	21
Unclassified . . . . .	54	16	0	0	0	0
<b>Teachers College</b> . . . . .	—	—	—	196	317	121
First-year . . . . .				18	42	24
Second-year . . . . .				20	19	-1
Third-year . . . . .				46	80	34
Fourth year . . . . .				29	46	17
Graduates † . . . . .				51	92	41
Specials . . . . .				32	38	6
<b>Total professional students</b> . . . . .	1365	1319	1501	1666	1915	249
<b>Auditors</b> . . . . .				15	22	7
<b>Total students in University</b> . . . . .	1953	1999	2260	2608	2956	348
<b>Extension students, Teachers College ‡</b>				470	750	280
<b>Officers</b> . . . . .				426	443	17
<b>Total University influence §</b> . . . . .				3504	4149	645

\* Barnard figures are those for the end of the academic year, except in 1899.

† From some points of view the (95) graduate students in the Schools of Applied Science and in Teachers College are "non-professional."

‡ Extension students in Teachers College are required to do the full amount of work of the regular course and are subject to the same examinations.

§ Not including (543) pupils in the Horace Mann School and (58) pupils in the Experimental School of Teachers College.

## COLUMBIA UNIVERSITY BULLETIN

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From its foundation, in 1890, until it was displaced by the *QUARTERLY* in 1898, the *Bulletin* contained a large amount of interesting and valuable matter relating to the University in its period of growth and reconstruction. A few complete sets, with index, may be obtained at **three dollars** each ; and single numbers at **twenty cents** each.

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